

Indiana Department of Natural Resources – Division of Forestry  
State Forest Properties  
Report of Continuous Forest Inventory (CFI)  
Summary of years 1 - 5 (2008-2012)



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## **FOREWARD**

This report provides an overview of forest resource attributes for State Forest land managed by the IN DNR Division of Forestry based on findings from a continuous annual inventory conducted by the Forest Resource Information (FRI) Section of the IN DNR-Division of Forestry. The CFI inventory of Indiana DNR Division of Forestry State Forest property is based on a sample of 3,860 plots located randomly across those lands managed by the Division of Forestry (a total area of 155,725 acres), a sampling rate of approximately one plot for every 40 acres. Information in this report are gathered from quantitative and qualitative measurements that describe forest site attributes; stand characteristics; tree measurements on live and dead stems such as species, diameter, height, damage, tree quality; counts of regeneration; and estimates of growth, mortality, and removals. All estimates in this assessment are estimates of a population based on a statistical sample derived from the expansion of plot data and therefore may differ slightly from complete censuses of some populations (e.g., total acres). Given the multitude of estimates of forest resource attributes, they are organized in “core tables” (e.g., forest land area vs. live tree volumes) which are updated annually. This report is a summary of the initial five years of plot installation and data collection, which constitutes one entire cycle. Change attributes such as growth, removals, and mortality are acquired by other data sources than plot data as no plot re-measurement has occurred.

## **EXECUTIVE SUMMARY/HIGHLIGHTS**

This is the first reported results of the newly established continuous forest inventory (CFI). The goal of the first five years was to install all of the plots within the CFI sample frame and produce baseline resource estimates. These baseline data/estimates will then be used as a monitoring baseline to compare to future remeasurement data in compilation of statistical change estimates (e.g., tree growth/mortality). Details of the results are discussed below, and tabular results can be found in the additional "Part B" report. Baseline resource estimates of state forest properties are:

- 155,725 total acres; 149,727 forested acres with the balance in non-forest (i.e. campgrounds) and water
- 95% of the forested acres are hardwoods

- 95% of the forested acres are sawlog-sized stands
- Forests contain 59.4 million live trees
- Sugar Maple trees and seedlings are more abundant than any other species
- 337.4 million cubic feet of total live tree volume
- 1.379 billion board feet (International ¼ inch) of sawlog volume
- White Oaks followed by Red Oaks are the species groups with the most sawlog volume
- Nearly half of the sawlog volume is considered grade 1 or 2
- Growth exceeds harvest by at least a 2:1 margin
- Multiflora rose, Japanese honeysuckle, and stiltgrass are the most common invasive species

## **FOREST COMPOSITION**

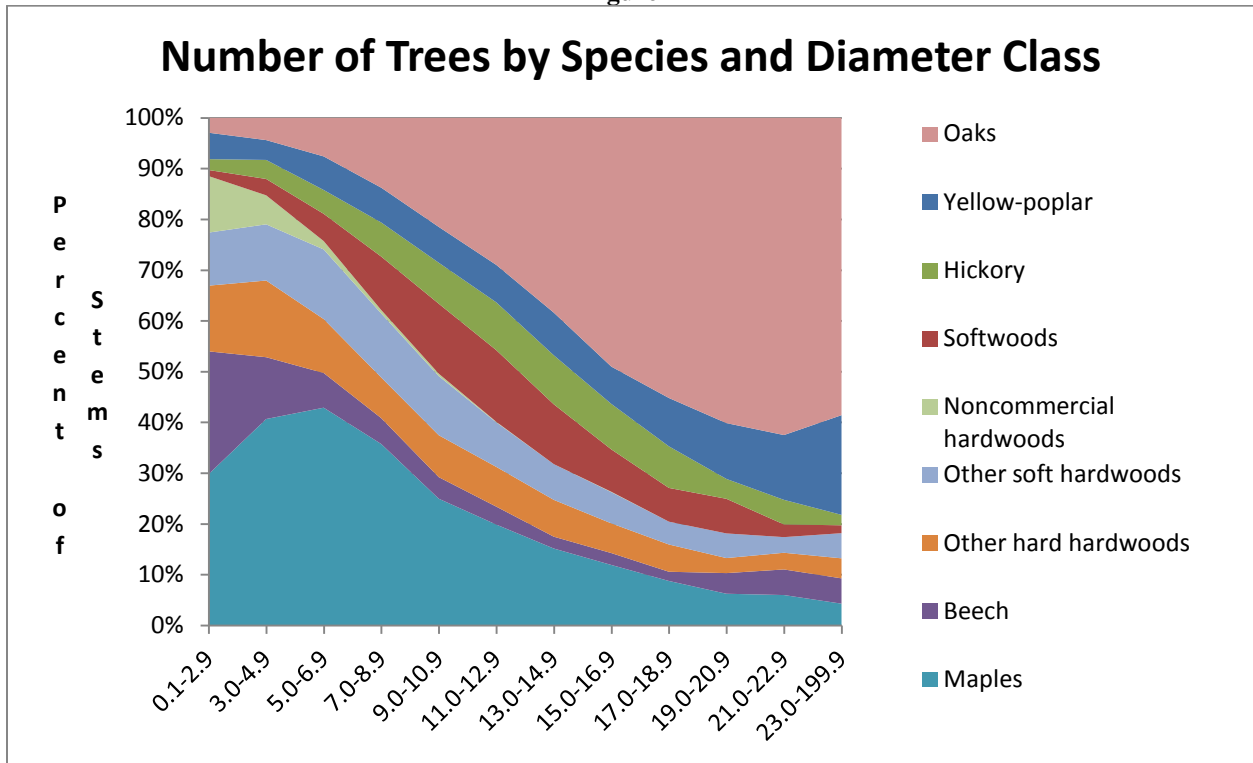
### **Area**

State Forest lands are comprised of approximately 155,725 acres located primarily in the southern 1/3 of Indiana. An estimated 149,727 of these acres are considered forestland (land considered stocked with trees or seedlings that is at minimum 1 acre in size and 120 feet in width), with the remaining ~6,000 acres being non-forest (open fields, campgrounds, right-of-ways, etc.), census water (bodies of water >5 acres and permanent rivers/streams), and non-census water (bodies of water <5 acres and small streams). Like most of Indiana's forests, state forests are predominantly hardwoods with 95% of the total forest area classified as hardwood forest types. The primary hardwood forest types were mixed upland hardwoods (49,881 acres, 33%), White Oak/Red Oak/Hickory (42,332 acres, 28%), and Chestnut Oak (10,975 acres, 7%) (Table 1). Ninety-five percent of the area was considered sawlog-sized stands (large diameter or 11.0" d.b.h. and greater), with the remainder classified as poles (medium diameter or 5.0-10.9" d.b.h.) and seedling/saplings (small diameter or 1.0-4.9" d.b.h.) (Table 1).

### **Number of Live Trees**

It is estimated that there are 59.4 million live trees on state forest lands. In terms of the total number of live trees, Sugar Maple and Beech were the most abundant species at 13 million and 9.9 million trees respectively (Table 2). Over ½ of the number of trees were less than 3 inches d.b.h. with nearly 42.5 million being less than 5 inches d.b.h. An item of concern is the non-uniform distribution of the number of stems by diameter class for different species (Figure 1). In this sample, all Oak species combined represented about 3.3% of all saplings 1 inch to less than 5 inches d.b.h. The lack of Oak seedlings/saplings and abundance of Maple seedlings/saplings suggests a future decline of Oak/Hickory forest types as mature stands senesce.

Figure 1



**Volume of All Live Trees**

The net volume of all live trees, which includes growing stock, rough, and rotten trees, 5” d.b.h. and above was 337.4 million cubic feet. Hardwoods constituted 313.0 million cuft or 93%. Oaks made up 145.8 million cuft or 43%, Yellow Poplar was 46.5 million cuft or 14%, Maples were 45.1 million cuft or 13%, and Hickories were 22.4 million cuft or 7% of the total volume (Table 3). Approximately 46.5 million cuft or 14% of the volume is in pole-sized trees (trees <11” d.b.h.) with the remainder being sawlog-sized (11” and greater d.b.h.). 63.3 million cuft or 19% is 23” or greater d.b.h. (Table 3). It was estimated that 327.5 million cuft of the total volume was in growing stock trees, with the remainder in rough cull and rotten cull trees. These volumes are presented in cubic feet because board foot volume estimates are only calculated on sawtimber-sized trees (hardwoods 11” d.b.h. and greater, softwoods 9” d.b.h. and greater).

**Volume of Sawtimber-sized Trees**

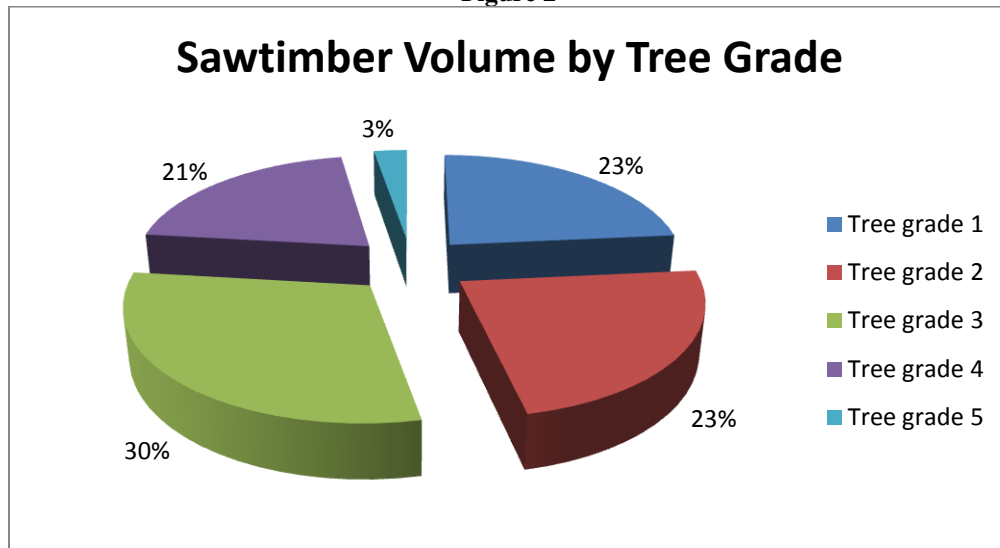
The total net sawtimber volume was 1.379 billion board feet International 1/4 inch scale. The White Oak group (mainly White and Chestnut Oak) was the largest species group with 408.7 million board feet (MMBF) or 30%, with the Red Oak group (mainly Northern Red and Black Oak) second with 238.2 MMBF or 17%. Yellow Poplar, Maples, Hickories, Beech, and Ash were the other major hardwood species groups ranked by sawlog volume with 218.1, 126.1, 93.7, 45.3, and 35.0 MMBF respectively (Table 4).

**Grade of Sawtimber-sized Trees**

Trees are graded using the Forest Service tree grading system. It grades the best 12’ section in the butt 16’ for hardwoods. Grade 1 must yield 10’ clear of defects, grade 2 must yield 8’ clear, grade 3 must yield 6’ clear,

grade 4 must only be sound (tie grade) and grade 5 has a non-gradable butt log (due to form or rot) but has a gradable upper log (above the butt 16' log). It was estimated that 324.0 MMBF of the total net sawtimber volume was grade 1 and 319.9 and 415.5 MMBF in grades 2 and 3 respectively (Figure 2). Over 98% of the sawtimber volume of trees had 0-10% cull deductions.

Figure 2



## CHANGE ATTRIBUTES AND ANCILLARY DATA ITEMS

### Growth, Removals, and Mortality

We are beginning to re-measure plots in 2013. The uncertainty associated with our estimates of change will sequentially decrease as each year's annual re-measurement is added to the sample until all CFI plots have been re-measured. Until we have sufficient re-measured tree data for change estimates with an acceptable level of uncertainty, we will rely on FIA change estimates for our state forest properties. Using a query to select only plots sampled on state forest properties, the USFS Forest Inventory and Analysis (FIA) Program estimates that total annual growth on sawtimber is 40.4 MMBF which is 259 BF/ac/yr. In comparison, a 2005 system-wide inventory of all state forest properties estimated annual growth of sawtimber was 24.8 MMBF or 167 BF/acre/yr.

Records for the previous 10 years indicate that state forests have harvested an average 9.5 MMBF, or 12.1 MMBF per year on average for the past 5 years. Both of these removal or harvest estimates are well below either of the given growth estimates, suggesting that forests are being managed sustainably.

As with growth, when we re-measure our plots we will begin to estimate mortality as well (trees alive at time 1, but dead at time 2). Trees already dead were assessed (see the section below labeled standing dead trees) but we are unable to determine when these trees died (i.e., statistical censoring). Using statewide estimates from FIA data, we expect average annual mortality (volume estimates) at about 1%/year of total live tree volume.

## **Standing Dead Trees**

There were an estimated 1.7 million standing dead trees 5" d.b.h. and greater. The individual species with the largest number of standing dead trees was Sassafras with 324 thousand standing dead trees. Virginia Pine was second with 185 thousand standing dead trees with White Oak and Chestnut Oak following with 170 and 153 thousand standing dead trees respectively (Table 5). As with the number of live trees, the number of standing dead trees decreased as the diameter increased. Of the 1.7 million standing dead trees, 952 thousand had a diameter from 5-9" d.b.h., 539 thousand were from 9-15" d.b.h., 142 thousand were from 15-19" d.b.h., and the remaining 80 thousand were 19" d.b.h. and greater (Table 5). For comparison, estimates made from stand-exam inventories from 2007-2010 showed very similar numbers... 11.4 standing dead trees /acre (CFI data 11.4) for d.b.h. >5"; 5.3 standing dead trees /acre (CFI data 5.1) for d.b.h. >9"; and 0.57 standing dead trees /acre (CFI data 0.53) for d.b.h. >19". Standing dead trees were categorized in their decay process with a gradient code of 1-5... one being recent mortality and five having an extreme lack of structural integrity due to decay processes (see descriptors in table 6). It was found that 17% of standing dead trees were decay class 1, 16% as decay class 2, 31% as decay class 3, 28% as decay class 4, and the remaining 8% as decay class 5 (Table 6).

## **Cavity Trees**

Of the 16.9 million live trees 5" d.b.h. and greater on the state forests, it is estimated that 1.2 million (7%) have a cavity present. A cavity is defined as a hole present on the tree at least 1" by 1" in size. Of the trees with cavities present, 52% were found on trees with diameters from 5-11" d.b.h., 35% from 11-19" d.b.h., and 13% 19" d.b.h. and greater (Table 7).

## **SUMMARY**

The establishment of a statistically rigorous forest resource monitoring program modeled after many aspects of the Nation's forest inventory program (FIA) on Indiana's state forests is already yielding a baseline of resource information. Estimates from this baseline compare favorably to prior estimates available from the FIA program and previous inventories conducted on state forest properties. As estimates of state forest land resource attributes were either sampled at a lower plot intensity (FIA) or using inconsistent methodologies (stand-exams), estimates from Indiana's state forest land CFI program may be considered as a superior baseline.

Change estimates will become available in the future as a sufficient number of plots are remeasured to provide reliable estimates. The CFI system was not designed to produce change estimates until plots are re-measured (beginning in 2013 with 20% measured annually). Until a sufficient number of CFI plots are remeasured we will primarily rely on FIA data from plots on state forest lands for change estimates.

Even if all CFI plots are remeasured for change estimates, it is expected that the uncertainty associated with estimates of harvest will be relatively high as harvest is often only observed on a minority of plots compared to growth. We will always augment this removal data with data from our timber sales and strive to better correlate and reconcile differences between the inventory data and the sales data.

## **INVENTORY METHODS AND TECHNIQUES**

In order to have a better understanding of Indiana's public forests, to assist in providing public disclosure for forest management, and with third party certification from SFI and FSC in mind, Indiana DNR Division of

Forestry began designing a Continuous Forest Inventory (CFI) system in 2007. The USDA Forest Service Forest Inventory and Analysis (FIA) program was chosen to mirror for several reasons. The IN DNR began to negotiate with FIA to build the CFI system to meet the certification audit requirements and yet coincide with the existing FIA standards. A unique system was designed and implementation of plot establishment on the forest began in calendar year 2008. The plots were spaced such that approximately an equal number of plots per year per state forest property (an annual panel) would be completed. Annually these panels can stand alone as an independent survey and therefore some results of significant value can be analyzed and reported on an annual basis.

### **Quality Assurance/Quality Control**

The CFI program is the key program that provides the information needed to assess the status and trends of the IN DNR-Division of Forestry's managed forest lands. The goal of the CFI is to assure the production of complete, accurate and unbiased forest information of known quality. Specific measurement quality objectives (MQO) for precision are designed to provide a window of performance that we are striving to achieve for every field measurement (quality assurance or QA). Quality control (QC) procedures include direct feedback to field staff to provide continual real time assessment and improvements or refinements of field staff performance. These data quality goals were adapted from the USFS FIA program goals which were developed from knowledge of measurement processes in forestry and forest ecology.

At the heart of CFI quality is extensive staff training and expertise. Field staff meets minimum forest inventory requirements of a forestry education and background. In addition, each field staff member begins with an extensive on-the-job training program. Once the field staff member has a comfort level for what is expected of them, they begin production data collection on their own.

To quantify and evaluate how the field staff is performing, a second measurement (quality check) taken on a sample of completed field plots is performed by a trained and certified QA staff. This technique is done blindly, or without the production crew data on hand, and then the two sets of data are compared, analyzed, and scored to the given MQO standards. Three percent of the plots are pre-selected and considered mandatory quality check plots. The field staff does not have knowledge of which plots are mandatory checks. Field staff turn in completed data at given time intervals, and if no mandatory check plots are in that batch of production plots, then a random plot (non-mandatory) is picked to perform a quality check so that timely feedback can continuously be provided to the production field staff.

Each data measured in the field has an associated MQO for precision. This is an assigned tolerance or acceptable level of measurement error, and measure the ability of field staff to make repeatable measurements or observations within the assigned tolerances. In the analysis of QA data, an observation is within tolerance when the difference between the production field staff data and the quality check data do not exceed the assigned tolerance or MQO for that data element. For some data elements, the tolerance is "no error," thus only observations that are identical are within tolerance. For example, the tolerance for measurement of tree DBH is +/- 0.1 inch for each 20.0 inches of diameter of a live tree with the MQO for DBH set at 95%. The quality of the data is evaluated by comparing the desired rate of differences within tolerance (as a percent of observations) to the MQO. In the example above, the objective for DBH would be that 95% or more of the DBH observations are within +/- 0.1 inch for each 20.0 inches of diameter for all trees measured by both production field staff and QA staff.

Analysis of this QA dataset assures two things for the program: 1) a measurement of the accuracy of the data being collected and 2) an indicator of future training needs and refinement of the production field staff. With continuous program monitoring and productive feedback to field staff, the QAQC portion of the CFI program should continually improve the quality of the data over time.

### **Field Production Protocols**

With the annual inventory system, about one-fifth of all field plots are measured each year. After 5 years, an entire inventory cycle is completed. After the first 5 years, results can be analyzed and reports created as a moving 5-year average. For example, Indiana CFI will be able to generate a report based on inventory results for 2008 through 2012 or for 2010 through 2014.

Field plots of the inventory consist of installing and measuring of the annual sample of field plots (panel) on each state forest. It was determined for desired CFI precision standards that the sampling intensity would be one plot for approximately every 40 acres. For efficiency, it was also determined that an entire compartment of a state forest property would be established and measured within the same panel. INCFI used the FIA non-overlapping hexagonal method to assist with establishing plot locations using Arc Map.

Field crews measure vegetation on plots based on FIA standards and protocols with few exceptions. Instead of the four subplot design that FIA uses, Indiana CFI only uses one 24-foot-radius (1/24<sup>th</sup> acre) circular subplot with the offset 6.8-foot-radius (1/300<sup>th</sup> acre) microplot. Trees with a d.b.h. 5 inches and larger are measured on the 24-foot-radius circular subplot. All trees 1 inch d.b.h. and larger are measured on the 6.8-foot-radius circular microplot located 12 feet east of the center of the subplot. Both tree and forest measurements are collected. Some measurements include:

- General stand characteristics such as forest type, stand size and age, slope and aspect, and any recent disturbances
- Tree species, diameter, several different heights, damage, amount of rotten or missing wood, crown measurements, and tree quality
- Counts of tree regeneration
- Presence of identified invasive plants

Specific field protocols can be found in the Indiana CFI Field Data Collection Procedures for Plots Field Manual (internal document). With few exceptions, the FIA field manual (version 4.0) will suffice and is readily available online at [http://www.fia.fs.fed.us/library/field-guides-methods-proc/docs/core\\_ver\\_4-0\\_10\\_2007\\_p2.pdf](http://www.fia.fs.fed.us/library/field-guides-methods-proc/docs/core_ver_4-0_10_2007_p2.pdf).

### **Estimation Errors or Quality of the Estimates**

The four primary sources of error common to all sample-based estimates are sampling, measurement, prediction, and non-response error. For each of these sources of error, a definition within the context of the CFI inventory is provided along with a discussion of methods used to quantify and reduce this error.

#### **Sampling Error**

The process of sampling (selecting a random subset of a population and calculating estimates from this subset) causes estimates to contain error they would not have if every member of the population had been observed and

included in the estimate. The CFI inventory of Indiana DNR Division of Forestry State Forest property is based on a sample of 3,860 plots located randomly across those lands managed by the Division of Forestry (a total area of 155,725 acres), a sampling rate of approximately one plot for every 40 acres. Along with every estimate is an associated sampling error that is typically expressed as a percentage of the estimated value but that can also be expressed in the same units as the estimate or as a confidence interval (the estimated value plus or minus the sampling error). This sampling error is the primary measure of the reliability of an estimate. A sampling error can be interpreted to mean that the chances are two out of three that had a 100-percent inventory been taken using these methods, the results would have been within the limits indicated (i.e., 67-percent confidence interval).

The sampling errors for State-level estimates of the major attributes presented in this report are shown in the Part B tabular data report. The estimators used by CFI are unbiased under the assumptions that the sample plots are a random sample of the total population and the observed value for any plot is the true value for that plot. Deviations from these basic assumptions are not reflected in the computation of sampling errors. The following sections on measurement, prediction, and nonresponsive error address possible departures from these basic assumptions.

### **Measurement Error**

Errors associated with the methods and instruments used to observe and record the sample attributes are called measurement errors. On CFI plots, attributes such as the diameter and height of a tree are measured with different instruments, and other attributes such as species and crown class are observed without the aid of an instrument. On a typical CFI plot, 6 to 12 trees are observed with 15 to 20 attributes recorded on each tree. In addition, many attributes that describe the plot and conditions on the plot are observed. Errors in any of these observations affect the quality of the estimates. If a measurement is biased (such as tree diameter consistently taken at an incorrect place on the tree), then the estimates that use this observation (such as volume) will reflect this bias. Even if measurements are unbiased, high levels of random error in the measurements will add to the total random error of the estimation process.

To ensure that all CFI observations are made to the highest standards possible, a regular program of quality assurance and quality control is an integral part of all CFI data collection efforts, which was described above.

### **Prediction Error**

Errors associated with using mathematical models (such as volume models) to provide observations of the attributes of interest based on sample attributes are referred to as prediction errors. Area, number of trees, volume, biomass, growth, removals, and mortality are the primary attributes of interest presented in this report. Area and number of trees estimates are based on direct observation and do not involve the use of prediction models; however, CFI estimates of volume, biomass, growth, removals, and mortality use model-based predictions in the estimation process. Models are used to predict volume and biomass estimates of individual tree volumes. In the future, change estimates such as growth, mortality, and removals will be based on these model-based predictions of volume from both the future plot re-measurements and the measurements taken in this first inventory.

Users of CFI estimates should be aware of the possible prediction errors in CFI estimates. In comparing CFI estimates to other data sources, users need to be aware of the prediction models used in both estimates. If both estimates are based on the same prediction models with matching fitted parameter values, then the prediction



bias of one estimate should cancel out that of the other estimate. If the estimates are based on different prediction models, then the user should be aware of the prediction error of both models.

### **Non-response Error**

Non-response error refers to the error caused by not being able to observe some of the elements in the sample. In CFI, non-response occurs when crews are unable to measure a plot (or a portion of a plot) at a selected location. Non-response falls into the following three classes:

Denied access – Entire plots or portions of plots where the field crew is unable to obtain permission from the landowner and is therefore unable to measure the trees on the plot. This is not applicable in the CFI system on state forest properties, but could apply to the CFI system on the classified forest program.

Hazardous/inaccessible – Entire plots or portions of plots where the conditions present prevent a crew from safely getting to the plot or measuring the trees on the plot.

Other – Plots where the field crew is unable to obtain a valid measurement for a variety of reasons other than those stated above.

Non-response has two effects on the sample. First, it reduces the sample size. The reduced sample size is reflected in the sampling errors discussed in that section. Second, non-response can bias the estimates if the portion of the population not being sampled differs from the portion being sampled. Fortunately, in CFI, unlike many survey samples, non-response rates are relatively low. The non-response plots in this inventory were not permanently removed from the CFI system of plots. In future inventories we will again attempt to measure these plots. At that time we may be able to obtain permission to access these plots (for the classified forest system), the hazardous conditions may have changed, or other circumstances that caused us to not measure plots could be different.

### **Data Management**

This collected data is then imported, housed, and processed using a sophisticated Oracle database system. This Oracle system consists of three different but linked databases: MIDAS, NIMS and FIADB. Midas is the pre-field database and historical data housing unit. NIMS is the post-field housing and processing database. FIADB is the database housing the presentation tables. So this Oracle system not only houses the data but also processes and readies the data for distribution. –Processing” the data combines certain measurements to determine some calculated estimates (e.g. using tree diameter, tree height, site index measurements, tree species, etc. to estimate tree volume using a volume equation).

Distribution is accomplished by eventually loading the post-processed data (FIADB tables) into a customized Access database that is very similar in functionality to the USFS FIA EVALIDator online tool. This Access database is used to assist with the analysis and interpretation of data. One can create customized tables with error estimates using this EVALIDator Access database.

Oracle processing protocols are documented as well (several internal documents). Most protocols are scripts written in sequel programming code or are instructions for the processing of the data and are intended for the database manager or advanced user only. An Access EVALIDator User Guide was created (beta version – work in progress) with the intent of being used as a reference guide after a training session of how to use EVALIDator has been attended.

## **APPENDIX**

Table 1.—Area of forestland by forest type group and stand size class, State Forest Properties, 2008-2012.

Table 2.—Number of all live trees by species and diameter class, State Forest Properties, 2008-2012.

Table 3.—Net volume of all live trees by species and diameter class, State Forest Properties, 2008-2012.

Table 4.—Sawtimber volume of all live trees by species and diameter class, State Forest Properties, 2008-2012.

Table 5.—Number of standing dead trees 5” d.b.h. and greater by species and diameter class, State Forest Properties, 2008-2012.

Table 6.—Number of standing dead trees 5” d.b.h. and greater by decay code and diameter class, State Forest Properties, 2008-2012.

Table 7.—Number of all live trees with a cavity present by diameter class, State Forest Properties, 2008-2012.

Table 1.—Area of forestland by forest type group and stand size class, State Forest Properties, 2008-2012.

**Estimate: Total-Area of forestland(aces)**

<b>Forest Type</b>	<b>Stand-size</b>	<b>Large diameter</b>	<b>Medium diameter</b>	<b>Small diameter</b>	<b>Nonstocked</b>
<b>All</b>	149,727	141,927	4,016	3,498	287
<b>Mixed upland hardwoods</b>	49,881	46,829	1,474	1,537	40
<b>White oak / red oak / hickory</b>	42,332	41,880	122	245	84
<b>Chestnut oak</b>	10,975	10,894	41	-	41
<b>Pine / Hardwood</b>	10,865	9,963	532	370	0
<b>White oak</b>	7,602	7,480	-	82	41
<b>Yellow-poplar</b>	5,192	4,371	580	241	-
<b>Yellow-poplar / white oak / red oak</b>	4,929	4,805	42	83	-
<b>Chestnut oak / black oak / scarlet oak</b>	3,930	3,930	-	-	-
<b>Cherry / white ash / yellow-poplar</b>	1,228	1,023	123	82	-
<b>Sugar maple / beech / yellow birch</b>	1,102	1,063	39	-	-
<b>Other miscellaneous hardwood forest types</b>	6,679	4,931	897	773	80
<b>Miscellaneous softwood forest types</b>	5,011	4,757	168	86	0

Table 2.—Number of all live trees by species and diameter class, State Forest Properties, 2008-2012.

Estimate: Total-Number of all live trees on forestland (trees)

Species	Diameter class	0.1-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
All	59,406,169	32,650,471	9,827,207	4,356,042	2,876,155	2,227,697	1,845,239	1,523,086	1,263,908	1,024,976	727,547	509,518	574,321
sugar maple	13,081,032	7,134,634	2,939,863	1,320,494	710,306	364,762	241,384	155,689	96,451	55,319	34,626	19,671	7,832
American beech	9,867,230	7,898,778	1,196,578	297,728	146,428	94,748	65,263	35,547	29,616	18,628	29,604	25,679	28,631
red maple	4,906,726	2,537,573	1,057,596	533,463	299,112	178,586	117,550	71,286	47,293	31,622	8,867	9,897	13,881
other hardwood species	4,779,630	3,134,033	757,096	257,614	160,384	139,556	96,977	77,822	65,055	41,303	29,502	14,771	25,515
yellow-poplar	3,438,119	1,699,573	383,782	287,907	197,305	157,097	136,128	128,013	92,881	97,633	80,018	65,043	112,738
flowering dogwood	2,669,570	1,990,306	612,406	61,975	4,882	-	-	-	-	-	-	-	-
redcedar and pine species	2,236,298	391,238	316,609	233,743	302,828	307,101	260,464	179,455	105,441	68,116	49,610	12,752	8,943
sassafras	2,420,129	1,424,474	355,580	249,145	167,122	108,014	62,771	23,532	21,634	2,966	2,928	979	984
other oaks	2,143,748	502,282	184,109	122,734	118,930	142,887	136,146	157,795	179,222	173,834	136,722	117,330	171,753
white oak	1,960,019	221,475	110,645	107,579	163,174	166,824	187,722	196,699	208,372	206,412	154,699	120,070	116,347
chestnut oak	1,883,137	232,003	135,648	100,519	113,293	168,889	210,525	229,927	231,747	185,343	146,028	80,944	48,274
blackgum	1,642,223	873,855	419,989	167,516	75,250	48,408	19,771	15,797	12,774	5,903	-	979	1,980
eastern hophornbeam	1,592,593	1,385,869	184,056	16,789	3,919	984	-	-	976	-	-	-	-
ash species	1,519,744	906,226	182,351	107,963	61,047	55,170	60,095	40,532	37,506	28,520	15,706	9,858	14,767
piignut hickory	1,286,410	330,853	245,724	120,501	117,793	120,599	103,507	77,862	75,867	52,378	19,659	11,809	9,856
American elm	1,278,328	798,317	280,771	103,043	48,045	20,596	15,685	6,893	1,981	976	2,022	-	-
other hickories	940,669	366,885	122,829	84,239	75,352	59,264	70,307	69,163	37,410	31,570	8,828	12,868	1,955
black cherry	705,788	306,766	158,394	80,297	48,190	45,098	22,729	17,730	6,946	7,883	5,855	1,956	3,944
other elms	655,603	404,527	109,669	66,605	34,461	14,744	7,892	9,868	2,928	1,953	-	971	1,985
black walnut	379,167	110,805	73,512	36,185	28,332	34,366	30,322	29,476	9,808	14,617	2,873	3,939	4,932

Table 3.—Net volume of all live trees by species and diameter class, State Forest Properties, 2008-2012.

**Estimate: Total-Volume of all live on forestland(cuft)**

Species	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
<b>All</b>	337,418,250	10,232,719	14,985,598	21,294,522	28,612,677	35,248,694	41,026,608	44,694,786	41,291,512	36,722,588	63,308,547
<b>white oak</b>	51,681,512	250,061	819,489	1,525,449	2,759,439	4,248,942	6,287,726	8,411,315	8,123,926	8,085,344	11,169,821
<b>yellow-poplar</b>	46,505,580	747,202	1,144,069	1,711,555	2,536,517	3,595,811	3,728,276	5,291,915	5,743,896	6,006,230	16,000,108
<b>chestnut oak</b>	39,898,037	223,871	538,552	1,464,586	2,926,545	4,675,465	6,586,239	7,061,324	7,186,921	5,087,208	4,147,325
<b>black oak</b>	31,917,744	108,983	192,276	476,429	722,116	1,784,494	2,794,962	4,150,453	5,005,238	5,094,785	11,588,008
<b>sugar maple</b>	29,723,711	3,391,987	4,046,967	3,823,013	4,055,063	3,831,578	3,447,181	2,646,218	2,149,687	1,449,637	882,378
<b>redcedar and pine species</b>	24,407,225	523,345	1,502,190	2,839,169	3,919,926	4,118,992	3,504,306	3,055,661	2,979,021	971,265	993,353
<b>northern red oak</b>	16,803,950	109,437	213,251	595,004	751,057	964,787	1,974,166	2,210,163	2,183,177	2,450,758	5,352,150
<b>pignut hickory</b>	13,966,990	276,698	617,125	1,164,813	1,674,215	1,931,825	2,675,373	2,511,619	1,226,285	929,921	959,116
<b>red maple</b>	13,943,890	1,301,293	1,607,325	1,766,169	1,838,288	1,678,809	1,559,944	1,393,156	530,332	762,430	1,506,144
<b>American beech</b>	12,870,195	684,401	761,606	879,585	1,003,902	843,866	985,673	859,592	1,734,422	1,898,292	3,218,856
<b>other hardwood species</b>	12,334,001	893,929	923,127	1,353,846	1,419,427	1,482,860	1,698,365	1,308,647	1,061,162	706,679	1,485,963
<b>ash species</b>	8,758,914	236,616	309,292	523,686	923,507	1,007,525	1,284,378	1,305,776	905,451	707,684	1,554,997
<b>other hickories</b>	8,451,149	197,322	385,040	585,080	1,161,161	1,679,155	1,293,093	1,472,443	516,274	977,624	183,957
<b>American sycamore</b>	6,039,584	77,678	130,938	229,503	258,382	630,157	730,923	792,054	707,806	463,151	2,018,991
<b>sassafras</b>	4,669,748	502,575	775,126	914,166	873,920	510,134	651,933	121,967	169,316	59,965	90,645
<b>other oaks</b>	5,477,396	88,369	208,663	290,657	565,844	775,759	895,280	975,940	376,131	530,971	769,782
<b>black walnut</b>	3,314,349	77,182	130,581	305,317	429,378	634,605	306,755	574,287	144,373	260,047	451,825
<b>black cherry</b>	2,902,322	153,935	212,685	417,344	328,479	393,291	231,013	334,647	321,948	135,256	373,724
<b>elms</b>	2,313,899	351,730	360,534	297,726	330,350	354,019	150,703	110,235	105,598	62,722	190,281
<b>other maples</b>	1,438,054	36,107	106,761	131,424	135,159	106,619	240,320	107,374	120,545	82,621	371,124

Table 4.—Sawtimber volume of all live trees by species and diameter class, State Forest Properties, 2008-2012.

**Estimate: Total-All live net sawtimber volume (bdft – Int 1/4)**

Species	Diameter class	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
<b>All</b>	1,378,946,740	12,973,621	132,876,929	167,276,116	196,271,668	214,237,073	196,558,897	171,780,378	286,972,059
<b>white oak</b>	222,038,141	-	13,455,655	20,315,629	29,717,551	39,001,882	36,420,584	35,717,440	47,409,400
<b>yellow-poplar</b>	218,056,478	-	12,654,898	18,079,230	19,119,168	27,446,148	30,016,452	30,697,753	80,042,829
<b>chestnut oak</b>	178,906,817	-	14,175,092	22,783,899	32,032,520	33,645,831	33,534,072	23,777,454	18,957,951
<b>black oak</b>	146,494,204	-	3,456,324	8,771,116	13,835,887	20,252,816	24,160,878	24,410,213	51,606,969
<b>sugar maple</b>	83,363,904	-	18,484,745	17,403,181	16,183,848	12,201,967	10,148,722	5,853,589	3,087,852
<b>northern red oak</b>	76,493,589	-	3,566,471	4,801,000	9,853,366	10,871,997	10,785,927	11,978,355	24,636,473
<b>other hardwood species</b>	61,741,592	-	11,572,940	10,469,794	11,986,349	7,367,876	6,920,916	4189356	9,234,362
<b>pignut hickory</b>	58,736,869	-	8,121,385	9,423,011	13,219,750	12,505,921	6,101,784	4,618,079	4,746,940
<b>American beech</b>	45,334,770	-	4,605,477	3,961,177	4,397,621	4,115,941	7,307,962	8,007,128	12,939,463
<b>eastern white pine</b>	44,175,089	1,704,952	3,344,667	5,746,254	6,861,696	8,964,406	10,851,422	4,116,873	2,584,820
<b>Virginia pine</b>	40,475,534	5,365,158	8,529,832	10,294,988	7,315,253	4,467,378	3,043,485	395,020	1,064,420
<b>red maple</b>	37,978,562	-	7,334,696	7,014,769	6,766,100	5,584,434	2,316,048	3,302,955	5,659,560
<b>ash species</b>	34,953,794	-	3,935,807	4,594,332	5,779,829	6,023,421	4,078,135	3,371,595	7,170,676
<b>American sycamore</b>	25,441,085	-	1,181,672	2,919,890	3,143,779	3,784,553	3,392,144	2,225,051	8,793,996
<b>other pines and redcedar</b>	25,145,970	5,903,512	6,883,211	4,332,768	3,119,016	1,883,819	1,194,956	408,646	1,420,041
<b>shagbark hickory</b>	23,981,234	-	4,201,495	5,410,219	4,405,262	4,026,677	2,160,929	3,277,731	498,921
<b>other oaks</b>	23,000,856	-	2,589,427	3,592,070	4,236,238	4,752,379	1,813,921	2,497,405	3,519,418
<b>black walnut</b>	13,128,467	-	2,070,600	3,004,947	1,471,708	2,741,515	676,640	1,194,201	1,968,857
<b>other hickories</b>	11,026,136	-	1,434,702	2,696,628	1,901,798	3,089,202	355,248	1,146,316	402,242
<b>black cherry</b>	8,473,648	-	1,277,837	1,661,214	924,929	1,508,911	1,278,671	595,219	1,226,868

Table 5.—Number of standing dead trees 5” d.b.h. and greater by species and diameter class, State Forest Properties, 2008-2012.

**Estimate: Total-Number of standing dead trees 5"+ dbh on forestland(trees)**

Species	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
All	1,712,846	593,305	359,095	271,100	141,725	125,964	69,821	72,077	38,363	14,857	26,538
sassafras	323,926	186,938	78,802	34,563	14,804	3,903	2,961	1,956	-	-	-
Virginia pine	185,056	41,484	49,319	28,482	23,552	21,610	8,825	8,838	1,964	-	982
white oak	170,402	45,287	34,495	29,668	8,821	16,708	10,828	7,906	9,810	1,989	4,890
chestnut oak	152,953	19,766	19,668	37,559	14,829	23,596	13,843	10,866	6,903	2,946	2,977
eastern redcedar	112,474	70,363	24,480	14,662	1,013	976	-	-	-	-	979
black oak	101,616	14,797	8,934	10,832	13,824	12,743	7,856	15,835	5,895	5,981	4,919
other hardwood species	95,722	43,475	12,819	15,723	11,847	7,889	2,993	976	-	-	-
sugar maple	75,786	27,508	21,634	10,902	5,902	5,882	976	1,968	1,013	-	-
yellow-poplar	69,150	22,852	15,830	7,846	7,876	2,965	5,880	976	1,013	976	2,935
red pine	67,012	11,806	24,100	22,093	3,002	6,011	-	-	-	-	-
eastern white pine	56,828	14,695	12,734	10,698	3,903	5,938	1,931	3,970	2,957	-	-
northern red oak	46,274	7,857	3,922	5,966	2,967	8,850	5,895	2,948	3,925	976	2,967
black locust	34,219	20,472	5,910	4,905	1,956	976	-	-	-	-	-
other oaks	31,534	5,923	7,877	3,896	5,859	976	1,013	4,036	1,953	-	-
red maple	31,510	10,798	8,971	5,867	3,920	1,954	-	-	-	-	-
American elm	31,373	16,717	4,937	3,848	1,941	1,009	972	-	976	-	971
white ash	24,609	5,937	5,935	4,947	2,916	-	976	3,898	-	-	-
pignut hickory	21,668	3,950	1,953	5,869	979	3,000	976	3,959	982	-	-
American beech	20,725	3,958	1,960	4,936	1,009	-	979	976	-	1,989	4,917
black cherry	20,594	6,857	5,888	1,013	2,940	976	959	1,960	-	-	-
other hickories	15,726	3,904	2,971	1,953	4,908	-	982	1,009	-	-	-
slippery elm	14,746	4,964	2,929	1,949	2,957	-	976	-	971	-	-
other pines	8,944	2,997	3,027	2,920	-	-	-	-	-	-	-

Table 6.—Number of standing dead trees 5” d.b.h. and greater by decay code and diameter class, State Forest Properties, 2008-2012.

**Estimate: Number of standing dead trees 5”+ dbh on forestland(trees)**

Decay code	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
All	1,712,846	593,305	359,095	271,100	141,725	125,964	69,821	72,077	38,363	14,857	26,538
1: All limbs and branches present	288,525	109,632	65,016	38,331	21,572	15,815	8,839	12,694	9,784	1,958	4,883
2: Few limbs and no fine branches	280,360	91,514	67,108	46,334	23,381	18,691	10,751	9,815	6,860	1,989	3,917
3: Only limb stubs present	530,113	181,126	92,698	81,852	43,407	54,119	25,578	19,825	15,771	6,896	8,841
4: Few or no limb stubs remain	483,487	163,616	104,588	78,917	44,486	29,484	20,737	24,792	5,948	3,001	7,918
5: No evidence of branches remain	130,361	47,417	29,686	25,666	8,880	7,855	3,917	4,950	-	1,013	979

Table 7.—Number of all live trees with a cavity present by diameter class, State Forest Properties, 2008-2012.

**Estimate: Total-Number of all live trees on forestland(trees)**

Cavity Presence	Diameter class	0.1-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
All	59,406,169	32,650,471	9,827,207	4,356,042	2,876,155	2,227,697	1,845,239	1,523,086	1,263,908	1,024,976	727,547	509,518	574,321
No Tree Cavity	58,212,375	32,650,471	9,827,207	4,086,106	2,673,644	2,073,841	1,692,076	1,432,116	1,164,036	955,732	686,978	464,157	506,010
Tree Cavity	1,193,793	-	-	269,936	202,511	153,856	153,163	90,970	99,871	69,244	40,569	45,361	68,311

-----**END OF REPORT**-----

**PART B (DETAILED TABLES) FOLLOWS**



# PART B

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\*All tables contain forest attribute estimates for Indiana State Forest properties for measurements taken from 2008 to 2012, except where indicated

\*\*Gaps in enumeration of tables are placeholders for future tables such as forest health indicator population estimates (e.g., downed woody material)

**Table 1. — Area of forest land, in acres, by forest type and stand-size class, Indiana State Forests 2008 - 2012**

Estimate: Area of forestland(acres)

Sampling Error percent: Area of forestland(acres)

Forest type	Stand-size	Large diameter	Medium diameter	Small diameter	Nonstocked
All	149,727	141,927	4,016	3,498	287
	0.31	0.48	9.93	10.55	37.73
Jack pine	81	41	41	-	-
	70.49	100	100	-	-
Red pine	861	819	42	-	-
	21.66	22.2	100	-	-
Eastern white pine	2,049	2,008	-	40	-
	13.83	13.98	-	100	-
White pine / hemlock	84	84	-	-	-
	70.71	70.71	-	-	-
Shortleaf pine	163	163	-	-	-
	50.01	50.01	-	-	-
Virginia pine	1,529	1,439	85	5	-
	16.06	16.55	67.77	100	-
Pitch pine	41	41	-	-	-
	100	100	-	-	-
White pine / red oak / white ash	335	295	40	-	-
	33.39	35.88	100	-	-
Eastern redcedar / hardwood	1,623	1,420	122	81	-
	15.36	16.47	57.7	70.65	-
Shortleaf pine / oak	40	40	-	-	-
	100	100	-	-	-
Other pine / hardwood	8,867	8,208	370	289	-
	6.43	6.71	33.21	37.67	-
Chestnut oak	10,975	10,894	41	-	41
	5.57	5.6	100	-	100
White oak / red oak / hickory	42,332	41,880	122	245	84
	2.59	2.61	57.64	40.82	70.71
White oak	7,602	7,480	-	82	41
	6.94	7.01	-	70.65	100
Northern red oak	247	247	-	-	-
	40.82	40.82	-	-	-
Yellow-poplar / white oak / red oak	4,929	4,805	42	83	-
	8.96	9.07	100	70.72	-
Sassafras / persimmon	324	202	81	41	-
	34.36	42.82	70.71	100	-
Sweetgum / yellow-poplar	775	570	83	82	40
	22.71	26.44	70.72	70.71	100
Yellow-poplar	5,192	4,371	580	241	-
	8.67	9.5	26.49	39.45	-
Black walnut	565	482	83	-	-
	26.19	28.19	70.72	-	-

(Table 1 continued on next page)

(Table 1 continued)

Forest type	Stand-size	Large diameter	Medium diameter	Small diameter	Nonstocked
Black locust	446	-	-	446	-
	29.81	-	-	29.81	-
Chestnut oak / black oak / scarlet oak	3,930	3,930	-	-	-
	9.91	9.91	-	-	-
Red maple / oak	251	251	-	-	-
	40.69	40.69	-	-	-
Mixed upland hardwoods	49,881	46,829	1,474	1,537	40
	2.26	2.36	16.55	16.05	100
Swamp chestnut oak / cherrybark oak	42	42	-	-	-
	100	100	-	-	-
Black ash / American elm / red maple	500	500	-	-	-
	28.51	28.51	-	-	-
River birch / sycamore	166	82	42	42	-
	49.97	70.72	100	100	-
Cottonwood	363	323	-	-	40
	32.73	34.8	-	-	100
Sycamore / pecan / American elm	560	438	122	-	-
	26.68	30.14	57.74	-	-
Sugarberry / hackberry / elm / green ash	202	80	122	-	-
	44.68	70.71	57.74	-	-
Silver maple / American elm	289	289	-	-	-
	37.74	37.74	-	-	-
Red maple / lowland	817	695	122	-	-
	22.21	24.09	57.69	-	-
Sugar maple / beech / yellow birch	1,102	1,063	39	-	-
	19.07	19.42	100	-	-
Black cherry	202	202	-	-	-
	44.6	44.6	-	-	-
Hard maple / basswood	162	162	-	-	-
	49.98	49.98	-	-	-
Red maple / upland	242	162	81	-	-
	40.36	49.66	70.55	-	-
Aspen	41	41	-	-	-
	100	100	-	-	-
Other exotic hardwoods	41	-	41	-	-
	100	-	100	-	-
Eastern redceder	203	162	-	41	-
	44.57	49.87	-	100	-
Cherry / white ash / yellow-poplar	1,228	1,023	123	82	-
	18.17	19.91	57.74	70.65	-
Elm / ash / black locust	402	121	120	162	-
	31.22	57.74	57.2	49.66	-
Other	42	42	-	-	-
	100	100	-	-	-

**Table 2. — Area of forest land, in acres, by forest type and stand age. Indiana State Forests 2008 - 2012**

Estimate: Area of forestland(acres)

Sampling Error percent: Area of forestland(acres)

Forest type	Stand Age	0 - 19	20 - 39	40 - 59	60 - 79	80 - 99	100 - 119	120 - 139	140 - 159	160 +
All	149,727	2,894	5,382	23,169	41,857	40,325	25,839	8,014	1,758	489
	0.31	11.63	8.49	3.81	2.62	2.72	3.56	6.83	15.1	28.72
Jack pine	81	-	-	41	41	-	-	-	-	-
	70.49	-	-	100	100	-	-	-	-	-
Red pine	861	-	126	462	274	-	-	-	-	-
	21.66	-	57.7	29.72	38.24	-	-	-	-	-
Eastern white pine	2,049	1	80	748	946	274	-	-	-	-
	13.83	100	69.72	23.05	20.65	38.04	-	-	-	-
White pine / hemlock	84	-	-	84	-	-	-	-	-	-
	70.71	-	-	70.71	-	-	-	-	-	-
Shortleaf pine	163	-	41	123	-	-	-	-	-	-
	50.01	-	100	57.74	-	-	-	-	-	-
Virginia pine	1,529	5	117	745	620	42	-	-	-	-
	16.06	100	57.76	23.2	25.09	100	-	-	-	-
Pitch pine	41	-	-	41	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-
White pine / red oak / white ash	335	-	-	173	162	-	-	-	-	-
	33.39	-	-	46.4	49.68	-	-	-	-	-
Eastern redcedar / hardwood	1,623	41	203	527	406	162	162	-	122	-
	15.36	100	44.57	27.54	31.43	49.87	49.87	-	57.64	-
Shortleaf pine / oak	40	-	-	40	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-
Other pine / hardwood	8,867	83	899	3,157	2,197	1,022	856	571	82	-
	6.43	70.6	21.2	11.16	13.49	19.7	21.5	26.45	70.65	-
Chestnut oak	10,975	41	-	287	1,348	3,320	3,356	2,174	367	82
	5.57	100	-	37.71	17.21	10.84	10.78	13.52	33.22	70.65
White oak / red oak / hickory	42,332	248	81	1,559	9,405	16,419	10,897	2,823	696	204
	2.59	40.81	70.71	16.16	6.34	4.67	5.85	11.91	24.15	44.66
White oak	7,602	83	-	41	574	2,678	3,084	856	205	82
	6.94	70.72	-	100	26.67	12.17	11.24	21.53	44.71	70.65
Northern red oak	247	-	41	-	41	125	41	-	-	-
	40.82	-	100	-	100	57.74	100	-	-	-
Yellow-poplar / white oak / red oak	4,929	-	123	738	1,936	1,478	368	285	-	-
	8.96	-	57.74	23.5	14.41	16.59	33.32	37.73	-	-
Sassafras / persimmon	324	-	52	231	-	41	-	-	-	-
	34.36	-	80.74	41.05	-	100	-	-	-	-
Sweetgum / yellow-poplar	775	81	42	323	247	82	-	-	-	-
	22.71	70.71	100	34.81	40.8	70.72	-	-	-	-
Yellow-poplar	5,192	246	822	1,636	1,584	614	250	-	41	-
	8.67	38.76	22.27	15.71	15.95	25.76	40.76	-	100	-
Black walnut	565	-	81	80	366	39	-	-	-	-
	26.19	-	70.72	69.72	33.2	100	-	-	-	-
Black locust	446	283	123	-	-	-	40	-	-	-
	29.81	37.56	57.66	-	-	-	100	-	-	-
Chestnut oak / black oak / scarlet oak	3,930	-	-	83	620	1,575	1,403	250	-	-
	9.91	-	-	70.72	25.73	16.03	16.86	40.76	-	-
Red maple / oak	251	-	-	42	41	84	84	-	-	-
	40.69	-	-	100	100	70.59	70.59	-	-	-
Mixed upland hardwoods	49,881	1,538	1,982	10,107	18,754	11,232	4,887	1,054	245	81
	2.26	16.06	14.17	6.07	4.28	5.75	8.93	19.56	40.81	70.71

(Table 2 continued on next page)

(Table 2 continued)

Forest type	Stand Age	0 - 19	20 - 39	40 - 59	60 - 79	80 - 99	100 - 119	120 - 139	140 - 159	160 +
Swamp chestnut oak / cherrybark oak	42	-	-	-	42	-	-	-	-	-
	100	-	-	-	100	-	-	-	-	-
Black ash / American elm / red maple	500	-	-	-	418	-	42	-	-	41
	28.51	-	-	-	31.25	-	100	-	-	100
River birch / sycamore	166	42	-	82	42	-	-	-	-	-
	49.97	100	-	70.73	100	-	-	-	-	-
Cottonwood	363	40	40	162	81	40	-	-	-	-
	32.73	100	100	49.66	70.55	100	-	-	-	-
Sycamore / pecan / American elm	560	-	122	194	121	41	82	-	-	-
	26.68	-	57.74	44.81	57.64	100	70.72	-	-	-
Sugarberry / hackberry / elm / green ash	202	41	-	80	81	-	-	-	-	-
	44.68	100	-	70.71	70.53	-	-	-	-	-
Silver maple / American elm	289	-	-	122	84	82	-	-	-	-
	37.74	-	-	57.75	70.59	70.72	-	-	-	-
Red maple / lowland	817	-	82	451	164	120	-	-	-	-
	22.21	-	70.72	30.06	49.95	57.65	-	-	-	-
Sugar maple / beech / yellow birch	1,102	-	-	203	448	285	165	-	-	-
	19.07	-	-	44.71	30.03	37.72	49.92	-	-	-
Black cherry	202	-	-	-	81	81	40	-	-	-
	44.6	-	-	-	70.71	70.71	100	-	-	-
Hard maple / basswood	162	-	-	-	81	81	-	-	-	-
	49.98	-	-	-	70.65	70.71	-	-	-	-
Red maple / upland	242	-	81	40	81	40	-	-	-	-
	40.36	-	70.55	100	70.55	100	-	-	-	-
Aspen	41	-	-	-	-	41	-	-	-	-
	100	-	-	-	-	100	-	-	-	-
Other exotic hardwoods	41	-	-	41	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-
Eastern redceder	203	41	-	122	41	-	-	-	-	-
	44.57	100	-	57.64	100	-	-	-	-	-
Cherry / white ash / yellow-poplar	1,228	82	165	285	370	286	41	-	-	-
	18.17	70.65	49.96	37.76	33.28	37.76	100	-	-	-
Elm / ash / black locust	402	-	80	120	121	40	40	-	-	-
	31.22	-	70.71	57.2	57.65	100	100	-	-	-
Other	42	-	-	-	42	-	-	-	-	-
	100	-	-	-	100	-	-	-	-	-

**Table 3. — Area of forest land, in acres, by state forest and forest type, Indiana State Forests 2008 - 2012**

Estimate: Area of forestland(acres)

Sampling Error percent: Area of forestland(acres)

State Forest	Forest type	Jack pine	Red pine	Eastern white pine	White pine / hemlock	Shortleaf pine	Virginia pine	Pitch pine	White pine / red oak / white ash
All	149,727	81	861	2,049	84	163	1,529	41	335
	0.31	70.49	21.66	13.83	70.71	50.01	16.06	100	33.39
Clark State Forest	25,155	-	-	204	-	-	233	-	-
	0.52	-	-	44.58	-	-	40.95	-	-
Ferdinand State Forest	12,363	-	210	461	42	42	42	-	42
	1.04	-	44.43	29.65	100	100	100	-	100
Greene-Sullivan State Forest	5,983	-	-	323	-	40	323	-	81
	4.76	-	-	34.8	-	100	34.8	-	70.55
Harrison-Crawford State Forest	23,814	-	81	99	-	41	284	41	-
	0.51	-	70.65	60.55	-	100	37.61	100	-
Jackson-Washington State Forest	17,574	-	41	-	-	-	82	-	41
	0.94	-	100	-	-	-	70.63	-	100
Martin State Forest	7,829	-	-	40	-	40	-	-	-
	0.52	-	-	100	-	100	-	-	-
Morgan-Monroe State Forest	24,902	-	41	312	-	-	15	-	-
	0.67	-	100	35.29	-	-	100	-	-
Owen-Putnam State Forest	6,403	81	81	203	-	-	126	-	-
	1.22	70.49	70.49	44.16	-	-	55.74	-	-
Salamonie State Forest	1,444	-	-	199	-	-	-	-	172
	1.9	-	-	42.16	-	-	-	-	44.58
Selmier State Forest	311	-	-	-	-	-	-	-	-
	12.5	-	-	-	-	-	-	-	-
Yellowwood State Forest	23,950	-	408	207	42	-	425	-	-
	0.51	-	31.25	43.95	100	-	30.61	-	-

(Table 3 continued on next page)

(Table 3 continued)

State Forest	Eastern redcedar / hardwood	Shortleaf pine / oak	Other pine / hardwood	Chestnut oak	White oak / red oak / hickory	White oak	Northern red oak	Yellow- poplar / white oak / red oak	Sassafras / persimmon
All	1,623	40	8,867	10,975	42,332	7,602	247	4,929	324
	15.36	100	6.43	5.57	2.59	6.94	40.82	8.96	34.36
Clark State Forest	-	-	3,957	5,548	5,428	3,953	-	857	-
	-	-	9.34	7.6	7.69	9.3	-	21.47	-
Ferdinand State Forest	-	-	1,174	168	4,065	168	42	671	-
	-	-	18.04	49.75	8.4	49.75	100	24.38	-
Greene-Sullivan State Forest	-	40	1,010	-	162	-	-	40	-
	-	100	18.89	-	49.66	-	-	100	-
Harrison-Crawford State Forest	1,501	-	779	203	10,668	1,460	81	1,014	162
	15.94	-	22.38	44.57	4.62	16.17	70.65	19.59	49.87
Jackson-Washington State Forest	82	-	572	3,311	5,132	479	41	491	-
	70.63	-	26.33	10.07	7.57	28.61	100	28.51	-
Martin State Forest	40	-	404	40	2,098	40	-	40	-
	100	-	30.88	100	11.91	100	-	100	-
Morgan-Monroe State Forest	-	-	284	527	7,639	243	41	983	81
	-	-	37.62	27.47	6.1	40.66	100	19.86	70.65
Owen-Putnam State Forest	-	-	315	-	1,312	81	-	163	81
	-	-	34.71	-	15.75	70.49	-	49.53	62.79
Salamonie State Forest	-	-	40	-	80	-	-	-	-
	-	-	100	-	69.72	-	-	-	-
Selmier State Forest	-	-	39	-	-	-	-	39	-
	-	-	100	-	-	-	-	100	-
Yellowwood State Forest	-	-	294	1,178	5,748	1,178	42	632	-
	-	-	37.6	18.45	7.46	18.45	100	25.45	-

(Table 3 continued on next page)



(Table 3 continued)

State Forest	Sweetgum / yellow-poplar	Yellow-poplar	Black walnut	Black locust	Chestnut oak / black oak / scarlet oak	Red maple / oak	Mixed upland hardwoods	Swamp chestnut oak / cherrybark oak	Black ash / American elm / red maple
All	775	5,192	565	446	3,930	251	49,881	42	500
	22.71	8.67	26.19	29.81	9.91	40.69	2.26	100	28.51
Clark State Forest	204	535	-	-	326	-	3,420	-	41
	44.58	26.78	-	-	35.16	-	10.16	-	100
Ferdinand State Forest	210	210	84	42	-	168	3,313	42	419
	44.43	44.43	70.59	100	-	49.75	9.67	100	31.15
Greene-Sullivan State Forest	162	-	81	323	-	-	1,993	-	-
	49.66	-	70.55	34.8	-	-	12.5	-	-
Harrison-Crawford State Forest	41	771	41	41	41	-	5,291	-	-
	100	22.59	100	100	100	-	7.71	-	-
Jackson-Washington State Forest	41	721	41	41	338	41	5,181	-	-
	100	23.21	100	100	34.11	100	7.5	-	-
Martin State Forest	-	161	-	-	-	-	4,520	-	40
	-	49.61	-	-	-	-	6.18	-	100
Morgan-Monroe State Forest	41	1,176	81	-	1,014	-	12,060	-	-
	100	18.15	70.65	-	19.62	-	4.21	-	-
Owen-Putnam State Forest	-	651	-	-	-	-	3,187	-	-
	-	23.81	-	-	-	-	8.1	-	-
Salamonie State Forest	-	-	199	-	-	-	515	-	-
	-	-	42.16	-	-	-	22.65	-	-
Selmier State Forest	78	-	39	-	-	-	78	-	-
	66.14	-	100	-	-	-	66.14	-	-
Yellowwood State Forest	-	968	-	-	2,212	42	10,322	-	-
	-	20.45	-	-	13.12	100	4.82	-	-

(Table 3 continued on next page)

(Table 3 continued)

State Forest	River birch / sycamore	Cottonwood	Sycamore / pecan / American elm	Sugarberry / hackberry / elm / green ash	Silver maple / American elm	Red maple / lowland	Sugar maple / beech / yellow birch	Black cherry	Hard maple / basswood
All	166	363	560	202	289	817	1,102	202	162
	49.97	32.73	26.68	44.68	37.74	22.21	19.07	44.6	49.98
Clark State Forest	-	-	-	-	-	204	122	41	-
	-	-	-	-	-	44.58	57.64	100	-
Ferdinand State Forest	84	-	42	-	126	207	-	-	-
	70.59	-	100	-	57.54	44.44	-	-	-
Greene-Sullivan State Forest	40	363	153	-	-	283	-	121	-
	100	32.73	49.89	-	-	37.28	-	57.48	-
Harrison-Crawford State Forest	-	-	203	-	81	-	162	-	41
	-	-	44.57	-	70.65	-	49.87	-	100
Jackson-Washington State Forest	-	-	-	41	-	41	613	-	-
	-	-	-	100	-	100	25.41	-	-
Martin State Forest	-	-	81	81	-	40	40	40	-
	-	-	70.53	70.53	-	100	100	100	-
Morgan-Monroe State Forest	-	-	41	41	-	-	41	-	81
	-	-	100	100	-	-	100	-	70.65
Owen-Putnam State Forest	-	-	41	-	-	-	-	-	41
	-	-	100	-	-	-	-	-	100
Salamonie State Forest	-	-	-	40	40	-	-	-	-
	-	-	-	100	100	-	-	-	-
Selmier State Forest	-	-	-	-	-	-	39	-	-
	-	-	-	-	-	-	100	-	-
Yellowwood State Forest	42	-	-	-	42	42	84	-	-
	100	-	-	-	100	100	70.65	-	-

(Table 3 continued on next page)

(Table 3 continued)

State Forest	Red maple / upland	Aspen	Other exotic hardwoods	Eastern redceder	Cherry / white ash / yellow- poplar	Elm / ash / black locust	Other
All	242 40.36	41 100	41 100	203 44.57	1,228 18.17	402 31.22	42 100
Clark State Forest	-	-	-	-	82 70.65	-	-
Ferdinand State Forest	-	-	-	-	251 40.49	-	42 100
Greene-Sullivan State Forest	242 40.36	-	-	-	-	202 44.32	-
Harrison-Crawford State Forest	-	-	41 100	203 44.57	406 31.38	41 100	-
Jackson-Washington State Forest	-	-	-	-	204 44.52	-	-
Martin State Forest	-	-	-	-	40 100	40 100	-
Morgan-Monroe State Forest	-	41 100	-	-	122 57.64	-	-
Owen-Putnam State Forest	-	-	-	-	41 100	-	-
Salamonie State Forest	-	-	-	-	40 100	120 56.11	-
Selmier State Forest	-	-	-	-	-	-	-
Yellowwood State Forest	-	-	-	-	42 100	-	-

**Table 4. — Area of forest land, in acres, by state forest and stand-size class, Indiana State Forests 2008 - 2012**

Estimate: Area of forestland(acres)

Sampling Error percent: Area of forestland(acres)

State Forest	Stand-size	Large diameter	Medium diameter	Small diameter	Nonstocked
All	149,727	141,927	4,016	3,498	287
	0.31	0.48	9.93	10.55	37.73
Clark State Forest	25,155	24,118	535	502	-
	0.52	0.98	27.24	28.01	-
Ferdinand State Forest	12,363	11,115	585	621	42
	1.04	2.22	26.11	25.24	100
Greene-Sullivan State Forest	5,983	4,805	365	691	121
	4.76	6.25	32.58	23.2	57.48
Harrison-Crawford State Forest	23,814	22,970	284	519	41
	0.51	0.94	37.61	27.49	100
Jackson-Washington State Forest	17,574	16,607	695	230	41
	0.94	1.49	23.82	41.03	100
Martin State Forest	7,829	7,223	242	363	-
	0.52	2.15	40.3	32.64	-
Morgan-Monroe State Forest	24,902	24,011	567	324	-
	0.67	1.03	26.45	35.16	-
Owen-Putnam State Forest	6,403	6,155	248	-	-
	1.22	2	39.59	-	-
Salamonie State Forest	1,444	1,245	120	80	-
	1.9	6.95	56.11	69.72	-
Selmier State Forest	311	273	39	-	-
	12.5	18.9	100	-	-
Yellowwood State Forest	23,950	23,405	337	166	42
	0.51	0.81	35.14	48.72	100

**Table 5. — Area of forest land, in acres, by state forest and stand age, Indiana State Forests 2008 - 2012**

Estimate: Area of forestland(acres)

Sampling Error percent: Area of forestland(acres)

State Forest	Stand Age	0 - 19	20 - 39	40 - 59	60 - 79	80 - 99	100 - 119	120 - 139	140 - 159	160 +	
All		149,727	2,894	5,382	23,169	41,857	40,325	25,839	8,014	1,758	489
		0.31	11.63	8.49	3.81	2.62	2.72	3.56	6.83	15.1	28.72
Clark State Forest		25,155	139	524	1,917	4,256	7,526	6,142	3,508	775	367
		0.52	51.51	27.49	14.04	8.92	6.18	7.1	10.03	22.61	33.12
Ferdinand State Forest		12,363	579	546	2,096	4,736	3,317	922	168	-	-
		1.04	26.17	27.13	12.95	7.48	9.67	20.57	49.75	-	-
Greene-Sullivan State Forest		5,983	489	956	2,882	1,050	404	202	-	-	-
		4.76	27.87	19.31	9.75	18.48	30.98	44.32	-	-	-
Harrison-Crawford State Forest		23,814	479	889	3,727	5,953	6,693	4,868	840	325	41
		0.51	28.64	20.94	9.58	7.17	6.63	8.17	21.5	35.15	100
Jackson-Washington State Forest		17,574	271	409	1,763	5,581	4,849	2,738	1,472	409	82
		0.94	37.89	31.3	14.41	7.13	7.87	11.24	16	31.3	70.63
Martin State Forest		7,829	242	161	1,453	3,995	1,816	121	40	-	-
		0.52	40.3	49.61	15.09	7.07	13.11	57.44	100	-	-
Morgan-Monroe State Forest		24,902	406	729	3,397	7,799	7,015	4,826	649	81	-
		0.67	31.33	23.25	10.16	6	6.49	8.27	24.7	70.65	-
Owen-Putnam State Forest		6,403	-	378	1,696	2,051	1,830	407	41	-	-
		1.22	-	31.58	13.34	11.66	12.71	30.73	100	-	-
Salamonie State Forest		1,444	80	159	570	515	120	-	-	-	-
		1.9	69.72	47.87	20.73	22.65	56.11	-	-	-	-
Selmier State Forest		311	-	-	195	39	78	-	-	-	-
		12.5	-	-	31.62	100	66.14	-	-	-	-
Yellowwood State Forest		23,950	209	631	3,474	5,881	6,676	5,614	1,296	168	-
		0.51	43.75	25.51	10.15	7.33	6.77	7.57	17.5	49.87	-

**Table 6. — Area of forest land, in acres, by state forest and site productivity class, Indiana State Forests 2008 - 2012**

Estimate: Area of forestland(acres)

Sampling Error percent: Area of forestland(acres)

State Forest	Site productivity	225+	165-224	120-164	85-119	50-84	20-49	0-19
All	149,727	736	1,024	15,292	55,698	44,331	32,204	441
	0.31	23.48	19.92	4.87	2.12	2.54	2.97	30.05
Clark State Forest	25,155	-	82	1,183	5,141	6,511	12,157	82
	0.52	-	70.65	18.15	7.95	6.83	4.2	70.65
Ferdinand State Forest	12,363	168	126	1,802	5,606	3,488	1,174	-
	1.04	49.75	57.54	14.16	6.48	9.35	18.02	-
Greene-Sullivan State Forest	5,983	121	202	646	2,073	1,164	1,575	202
	4.76	57.48	44.32	24.14	12.2	17.35	14.58	44.32
Harrison-Crawford State Forest	23,814	81	122	1,339	8,429	9,543	4,259	41
	0.51	70.65	57.64	16.93	5.6	5.07	8.85	100
Jackson-Washington State Forest	17,574	-	-	1,594	4,567	4,917	6,454	41
	0.94	-	-	15.32	8.2	7.79	6.4	100
Martin State Forest	7,829	40	40	1,090	4,560	1,897	202	-
	0.52	100	100	17.91	6.12	12.74	44.26	-
Morgan-Monroe State Forest	24,902	122	162	3,325	11,400	7,419	2,474	-
	0.67	57.64	49.88	10.31	4.44	6.22	12.18	-
Owen-Putnam State Forest	6,403	41	122	1,330	3,451	1,094	366	-
	1.22	100	57.38	15.61	7.47	17.63	32.49	-
Salamonie State Forest	1,444	80	-	159	687	359	159	-
	1.9	69.72	-	47.87	17.57	29.4	47.87	-
Selmier State Forest	311	-	-	156	117	-	39	-
	12.5	-	-	39.53	50	-	100	-
Yellowwood State Forest	23,950	84	168	2,668	9,667	7,941	3,345	76
	0.51	70.65	49.87	11.82	5.11	5.96	10.4	71.03

**Table 7. — Area of forest land, in acres, by state forest and site index, Indiana State Forests 2008 - 2012**

Estimate: Area of forestland(acres)

Sampling Error percent: Area of forestland(acres)

State Forest	Site index	21 - 30	31 - 40	41 - 50	51 - 60	61 - 70	71 - 80	81 - 90	91 - 199	Not Collected
All	149,727	156	856	7,039	16,172	26,907	29,813	20,825	25,675	22,284
	0.31	50.06	21.7	7.37	4.7	3.53	3.28	4.09	3.58	3.67
Clark State Forest	25,155	-	449	1,887	3,805	3,768	2,162	1,550	1,742	9,791
	0.52	-	29.91	14.13	9.55	9.59	13.15	15.74	14.75	5.08
Ferdinand State Forest	12,363	-	-	293	922	2,431	2,898	2,054	3,178	588
	1.04	-	-	37.42	20.57	11.84	10.57	13.11	9.96	26.11
Greene-Sullivan State Forest	5,983	81	40	121	606	843	886	1,104	1,333	969
	4.76	70.55	100	57.48	25	20.83	20.26	17.77	16.11	19.33
Harrison-Crawford State Forest	23,814	41	243	2,272	4,617	5,436	4,148	2,677	2,832	1,549
	0.51	100	40.65	12.73	8.43	7.61	8.98	11.62	11.24	15.63
Jackson-Washington State Forest	17,574	-	82	542	1,226	2,953	3,015	2,003	2,249	5,503
	0.94	-	70.63	26.88	17.66	10.75	10.64	13.5	12.64	7.21
Martin State Forest	7,829	-	-	121	323	1,291	2,139	1,776	2,179	-
	0.52	-	-	57.44	34.71	16.2	11.75	13.3	11.6	-
Morgan-Monroe State Forest	24,902	-	-	1,135	2,311	4,436	6,795	3,726	5,525	973
	0.67	-	-	18.49	12.64	8.69	6.62	9.65	7.58	20.04
Owen-Putnam State Forest	6,403	-	-	41	122	809	1,424	1,586	2,178	244
	1.22	-	-	100	57.38	21.01	15.01	14	11.11	40.19
Salamonie State Forest	1,444	-	-	-	120	159	555	279	212	120
	1.9	-	-	-	56.11	47.87	21.37	34.5	39.74	56.11
Selmier State Forest	311	-	-	-	-	-	-	117	156	39
	12.5	-	-	-	-	-	-	50	39.53	100
Yellowwood State Forest	23,950	34	42	627	2,121	4,780	5,791	3,954	4,093	2,508
	0.51	100	100	25.52	13.42	8.39	7.42	9.43	9.23	12.25

**Table 10. — Number of live trees on forest land by species and diameter class, Indiana State Forests 2008 - 2012**

Estimate: Number of all live trees on forestland(trees)

Sampling Error percent: Number of all live trees on forestland(trees)

Species	Diameter class	0.1-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
All	59,406,169	32,650,471	9,827,207	4,356,042	2,876,155	2,227,697	1,845,239	1,523,086	1,263,908	1,024,976	727,547	509,518	574,321
	1.57	2.46	3.68	1.83	2.21	2.43	2.55	2.74	2.96	3.27	3.79	4.49	4.26
redcedar/juniper spp.	13,209	12,227	-	-	982	-	-	-	-	-	-	-	-
	92.85	100	-	-	100	-	-	-	-	-	-	-	-
eastern redcedar	824,124	219,435	231,448	122,117	110,336	67,402	44,006	18,604	7,811	1,989	976	-	-
	11.95	28.2	22.75	12.92	13.07	16.66	20.41	22.73	39.4	70.72	100	-	-
Norway spruce	976	-	-	-	-	-	976	-	-	-	-	-	-
	100	-	-	-	-	-	100	-	-	-	-	-	-
jack pine	10,770	-	-	979	1,958	4,895	2,937	-	-	-	-	-	-
	100	-	-	100	100	100	100	-	-	-	-	-	-
shortleaf pine	55,353	-	-	2,989	7,969	17,719	10,809	3,948	6,900	2,018	1,009	984	1,009
	29.26	-	-	74.92	53.17	37.7	39.36	61.14	42.77	100	100	100	100
red pine	251,619	-	24,360	20,859	53,778	63,769	51,079	22,861	7,008	4,974	1,961	-	971
	22.11	-	70.71	35.79	33.22	24.45	23.07	24.96	51.76	53.14	70.71	-	100
eastern white pine	468,322	84,511	48,641	34,639	34,380	38,295	44,302	50,206	41,321	40,447	35,794	10,786	4,999
	15.29	42.48	79.36	21.21	22.34	20.29	18.52	19.58	21.03	19.5	21.1	39.6	44.68
Virginia pine	609,981	75,065	12,160	52,160	92,453	115,021	106,355	82,864	42,401	18,688	9,870	982	1,964
	11.69	62.44	100	21.85	15.57	13.33	13.47	13.48	17.07	25.09	31.54	100	70.65
baldcypress	1,944	-	-	-	972	-	-	972	-	-	-	-	-
	70.55	-	-	-	100	-	-	100	-	-	-	-	-
boxelder	140,401	48,596	36,903	19,627	11,785	15,684	3,896	1,961	972	976	-	-	-
	26.28	49.98	57.74	29.9	35.22	35.23	49.98	70.71	100	100	-	-	-
black maple	976	-	-	-	-	-	-	976	-	-	-	-	-
	100	-	-	-	-	-	-	100	-	-	-	-	-
red maple	4,906,726	2,537,573	1,057,596	533,463	299,112	178,586	117,550	71,286	47,293	31,622	8,867	9,897	13,881
	5.68	8.54	11.51	5.41	6.4	8.54	10.25	12.8	14.96	19.2	33.3	31.57	26.67
silver maple	135,336	61,263	-	15,112	19,113	12,977	7,936	2,955	6,956	2,994	2,022	1,009	2,998
	29.99	52.87	-	31.65	44.25	33.32	35.29	75.29	42.92	57.74	70.71	100	57.74
sugar maple	13,081,032	7,134,634	2,939,863	1,320,494	710,306	364,762	241,384	155,689	96,451	55,319	34,626	19,671	7,832
	3.32	4.84	6.68	3.25	4.15	5.5	6.66	8.92	10.35	13.71	16.83	23.4	35.32
Ohio buckeye	93,608	72,981	11,926	3,854	2,912	959	-	-	-	976	-	-	-
	49.25	57.64	100	78.84	74.72	100	-	-	-	100	-	-	-
ailanthus	30,226	24,402	-	1,936	2,912	976	-	-	-	-	-	-	-
	58.14	70.71	-	70.71	57.7	100	-	-	-	-	-	-	-
European Alder	8,749	-	-	2,916	2,916	1,944	972	-	-	-	-	-	-
	55.28	-	-	74.4	74.4	70.55	100	-	-	-	-	-	-
serviceberry spp.	86,683	74,524	12,160	-	-	-	-	-	-	-	-	-	-
	43.01	47.29	100	-	-	-	-	-	-	-	-	-	-
roundleaf serviceberry	972	-	-	972	-	-	-	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-	-	-	-
pawpaw	823,464	823,464	-	-	-	-	-	-	-	-	-	-	-
	19	19	-	-	-	-	-	-	-	-	-	-	-

(Table 10 continued on next page)



(Table 10 continued)

Species	Diameter class	0.1-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
river birch	129,742	74,947	25,135	13,803	5,943	7,970	1,944	-	-	-	-	-	-
	39.91	52.7	70.59	52.83	46.82	39.24	100	-	-	-	-	-	-
paper birch	971	-	-	971	-	-	-	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-	-	-	-
American hornbeam	950,876	825,159	109,833	14,872	1,013	-	-	-	-	-	-	-	-
	14.24	15.38	33.26	27.49	100	-	-	-	-	-	-	-	-
bitternut hickory	146,175	47,689	12,239	6,825	11,896	13,963	10,918	16,797	8,971	12,900	1,013	2,964	-
	19.73	49.66	100	37.77	28.77	26.66	32.66	25.51	33.3	27.68	100	57.74	-
pignut hickory	1,286,410	330,853	245,724	120,501	117,793	120,599	103,507	77,862	75,867	52,378	19,659	11,809	9,856
	7.83	20.57	23.46	9.92	9.39	9.85	10.23	11.68	12.14	14.16	23.4	28.81	31.6
shellbark hickory	18,594	12,568	-	1,009	2,018	982	-	2,018	-	-	-	-	-
	74.33	100	-	100	70.59	100	-	70.59	-	-	-	-	-
shagbark hickory	730,456	281,951	110,590	73,448	59,416	43,343	53,395	46,435	26,486	17,699	7,815	8,895	984
	11.07	23.35	33.32	13.23	14.03	15	14.02	15.12	20.54	23.47	35.21	33.32	100
mockernut hickory	41,483	24,677	-	2,957	1,013	976	4,985	3,913	1,953	-	-	1,009	-
	45.24	70.72	-	57.74	100	100	53.05	49.98	70.65	-	-	100	-
red hickory	3,961	-	-	-	1,009	-	1,009	-	-	971	-	-	971
	61.58	-	-	-	100	-	100	-	-	100	-	-	100
American chestnut	2,916	-	-	972	972	-	972	-	-	-	-	-	-
	100	-	-	100	100	-	100	-	-	-	-	-	-
Chinese chestnut	972	-	-	972	-	-	-	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-	-	-	-
hackberry	272,542	171,235	60,354	14,677	6,820	6,830	1,896	3,883	-	1,936	2,957	976	976
	24.48	31.78	52.74	28.96	42.87	47.35	70.72	61.36	-	70.71	57.74	100	100
eastern redbud	637,683	355,198	243,314	28,407	7,822	2,943	-	-	-	-	-	-	-
	15.45	21.97	22.22	23.03	35.26	57.74	-	-	-	-	-	-	-
flowering dogwood	2,669,570	1,990,306	612,406	61,975	4,882	-	-	-	-	-	-	-	-
	8.16	9.44	14.6	17.44	44.57	-	-	-	-	-	-	-	-
hawthorn spp.	12,568	12,568	-	-	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-	-	-
persimmon spp.	1,968	-	-	-	-	1,968	-	-	-	-	-	-	-
	100	-	-	-	-	100	-	-	-	-	-	-	-
common persimmon	139,049	37,299	61,487	20,665	11,778	4,890	1,953	976	-	-	-	-	-
	31.29	57.68	52.81	23.73	40.63	52.83	70.65	100	-	-	-	-	-
American beech	9,867,230	7,898,778	1,196,578	297,728	146,428	94,748	65,263	35,547	29,616	18,628	29,604	25,679	28,631
	4.07	4.65	10.41	6.31	8.8	11.06	13.28	16.59	18.76	24.02	19.94	20.96	19.13
white ash	1,179,293	636,991	170,242	84,392	54,210	49,309	53,117	36,496	31,537	24,615	15,706	9,858	12,820
	10.39	16.69	26.63	12.14	13.87	15.36	15.15	17.6	18.14	20.7	24.94	31.6	27.68
green ash	331,663	269,235	12,109	20,642	3,908	5,861	6,978	4,036	5,969	1,952	-	-	971
	27.63	31.37	100	24.69	50	40.8	37.69	61.07	40.76	100	-	-	100
blue ash	8,788	-	-	2,929	2,929	-	-	-	-	1,953	-	-	976
	45.67	-	-	100	57.64	-	-	-	-	70.65	-	-	100
honeylocust	39,770	12,101	12,164	2,927	3,849	1,930	2,894	976	976	-	1,952	-	-
	47.53	100	100	74.79	78.91	70.71	74.36	100	100	-	100	-	-

(Table 10 continued on next page)

(Table 10 continued)

Species	Diameter class	0.1-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
butternut	1,948	-	-	976	-	-	-	972	-	-	-	-	-
	70.71	-	-	100	-	-	-	100	-	-	-	-	-
black walnut	379,167	110,805	73,512	36,185	28,332	34,366	30,322	29,476	9,808	14,617	2,873	3,939	4,932
	16.89	33.31	47.12	22.99	23.62	22.36	19.4	18.17	31.6	25.66	57.74	50.01	44.72
sweetgum	357,563	183,837	37,703	31,601	25,597	22,537	19,621	17,785	10,909	4,973	1,009	1,009	982
	23.52	37.93	57.54	22.44	22.93	25.35	26.13	26.9	32.76	53.02	100	100	100
yellow-poplar	3,438,119	1,699,573	383,782	287,907	197,305	157,097	136,128	128,013	92,881	97,633	80,018	65,043	112,738
	9.22	16.35	19.04	10	8.8	9.2	10.11	9.47	11.04	11.26	11.89	13.6	10.62
Osage-orange	13,552	12,568	-	-	-	984	-	-	-	-	-	-	-
	93.02	100	-	-	-	100	-	-	-	-	-	-	-
apple spp.	2,946	-	-	2,946	-	-	-	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-	-	-	-
mulberry spp.	1,944	-	-	972	972	-	-	-	-	-	-	-	-
	70.55	-	-	100	100	-	-	-	-	-	-	-	-
red mulberry	1,944	-	-	1,944	-	-	-	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-	-	-	-
blackgum	1,642,223	873,855	419,989	167,516	75,250	48,408	19,771	15,797	12,774	5,903	-	979	1,980
	9.65	14.74	17.54	9.02	12.95	14.76	22.31	26.44	29.75	40.82	-	100	70.72
eastern hophornbeam	1,592,593	1,385,869	184,056	16,789	3,919	984	-	-	976	-	-	-	-
	10.93	11.97	25.78	24.17	50	100	-	-	100	-	-	-	-
paulownia	982	-	-	-	982	-	-	-	-	-	-	-	-
	100	-	-	-	100	-	-	-	-	-	-	-	-
American sycamore	252,742	73,719	12,164	27,416	20,610	20,572	13,706	22,564	19,721	14,727	9,874	4,914	12,758
	17.76	47	100	26.46	23.74	27.25	28.39	24.76	24.54	25.75	34.75	44.68	29.73
balsam poplar	971	-	-	-	-	-	971	-	-	-	-	-	-
	100	-	-	-	-	-	100	-	-	-	-	-	-
eastern cottonwood	39,880	-	-	-	2,928	972	5,833	4,861	5,833	2,916	8,761	2,916	4,861
	21.88	-	-	-	57.65	100	40.36	44.32	46.77	57.48	39.68	57.48	44.32
bigtooth aspen	115,424	12,606	24,532	11,030	6,047	13,868	14,778	10,957	10,826	6,832	979	2,968	-
	28.61	100	70.74	52.4	57.81	28.46	27.42	35.12	35.13	42.79	100	57.74	-
quaking aspen	1,997	-	-	-	1,013	-	-	-	-	984	-	-	-
	70.72	-	-	-	100	-	-	-	-	100	-	-	-
pin cherry	982	-	-	982	-	-	-	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-	-	-	-
black cherry	705,788	306,766	158,394	80,297	48,190	45,098	22,729	17,730	6,946	7,883	5,855	1,956	3,944
	12.17	22.33	27.73	13.84	14.65	18.32	22.54	24.74	37.73	35.31	40.79	70.71	49.98
white oak	1,960,019	221,475	110,645	107,579	163,174	166,824	187,722	196,699	208,372	206,412	154,699	120,070	116,347
	4.84	28.2	36.76	10.37	8.79	8.51	8.2	7.95	7.66	7.57	8.35	9.33	9.74
scarlet oak	87,431	12,227	-	3,957	1,960	6,964	12,867	12,886	7,853	14,885	3,989	4,893	4,950
	18.7	100	-	49.98	70.71	42.71	27.69	27.7	35.31	27.36	49.96	44.69	44.71
northern pin oak	8,801	-	-	972	972	972	2,964	972	976	972	-	-	-
	33.17	-	-	100	100	100	57.74	100	100	100	-	-	-
shingle oak	57,771	12,109	24,219	7,781	4,864	2,953	3,893	976	-	-	976	-	-
	38.11	100	70.55	35.06	44.6	57.66	49.83	100	-	-	100	-	-

(Table 10 continued on next page)

(Table 10 continued)

Species	Diameter class	0.1-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
bur oak	971	-	-	971	-	-	-	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-	-	-	-
chinkapin oak	178,419	48,197	36,424	17,589	19,497	8,793	12,694	11,720	13,709	5,895	971	1,953	976
	19.66	49.99	57.74	27.04	24.31	33.18	31.48	30.98	28.43	40.76	100	70.65	100
pin oak	27,411	-	-	3,897	3,961	4,874	2,957	2,916	3,901	1,953	972	-	1,980
	32.59	-	-	61.18	78.76	52.8	57.74	57.65	61.26	70.71	100	-	70.72
chestnut oak	1,883,137	232,003	135,648	100,519	113,293	168,889	210,525	229,927	231,747	185,343	146,028	80,944	48,274
	6.45	36.7	39.55	11.73	11.06	9.52	8.47	7.72	7.51	8.23	8.53	11.76	15
northern red oak	725,708	184,087	73,863	43,291	39,415	59,072	46,409	40,499	60,066	51,117	39,419	35,344	53,127
	10.44	30.48	40.78	16.61	19.3	14.21	17.6	16.29	13.32	14.06	15.72	17.04	13.76
post oak	38,082	-	-	1,953	11,718	7,812	3,906	7,812	2,929	976	-	976	-
	31.27	-	-	70.65	40.65	39.35	61.15	46.63	74.49	100	-	100	-
black oak	1,019,154	245,662	49,603	42,323	36,543	51,447	50,456	80,014	89,788	98,036	90,395	74,164	110,720
	7.81	26.34	49.98	18.1	17.65	14.79	14.73	11.63	11.86	9.99	10.87	12.03	9.71
black locust	269,416	112,309	72,914	30,209	18,549	16,623	9,816	4,978	2,025	1,013	-	979	-
	31.67	60.06	52.63	29.23	29.08	26.82	34.74	44.68	100	100	-	100	-
willow spp.	24,219	24,219	-	-	-	-	-	-	-	-	-	-	-
	70.55	70.55	-	-	-	-	-	-	-	-	-	-	-
sassafras	2,420,129	1,424,474	355,580	249,145	167,122	108,014	62,771	23,532	21,634	2,966	2,928	979	984
	8.45	12.27	21.43	9.34	10.29	11.75	16.13	26.87	27.21	57.71	74.49	100	100
American basswood	93,683	24,164	24,398	6,855	5,851	3,947	9,789	3,978	6,837	2,976	1,948	-	2,940
	28.98	70.72	70.71	42.84	40.81	61.02	31.48	49.97	47.35	57.74	70.71	-	57.7
winged elm	28,265	24,327	-	1,953	1,985	-	-	-	-	-	-	-	-
	61.18	70.65	-	70.65	70.72	-	-	-	-	-	-	-	-
American elm	1,278,328	798,317	280,771	103,043	48,045	20,596	15,685	6,893	1,981	976	2,022	-	-
	10.68	13.75	21.62	11.39	14.67	22.71	26.24	37.73	70.72	100	70.71	-	-
Siberian elm	13,136	12,160	-	-	976	-	-	-	-	-	-	-	-
	92.85	100	-	-	100	-	-	-	-	-	-	-	-
slippery elm	601,130	368,040	97,568	63,681	31,500	14,744	7,892	9,868	2,928	1,953	-	971	1,985
	15.89	21.52	39.48	15.5	18.74	25.78	35.33	31.6	57.65	70.71	-	100	70.72
rock elm	13,072	-	12,101	971	-	-	-	-	-	-	-	-	-
	92.83	-	100	100	-	-	-	-	-	-	-	-	-
Russian-olive	108,983	96,874	12,109	-	-	-	-	-	-	-	-	-	-
	52.98	52.73	100	-	-	-	-	-	-	-	-	-	-
unknown hardwood	982	-	-	-	-	982	-	-	-	-	-	-	-
	100	-	-	-	-	100	-	-	-	-	-	-	-

**Table 11. — Number of live trees on forest land by species group and diameter class, Indiana State Forests 2008 - 2012**

Estimate: Total-Number of all live trees on forestland(trees)

Sampling Error percent: Post Stratification: Total Number of all live trees on forestland(trees)

Species group	Diameter class	0.1-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
All	59,406,169	32,650,471	9,827,207	4,356,042	2,876,155	2,227,697	1,845,239	1,523,086	1,263,908	1,024,976	727,547	509,518	574,321
	1.57	2.46	3.68	1.83	2.21	2.43	2.55	2.74	2.96	3.27	3.79	4.49	4.26
Loblolly and shortleaf pine	55,353	-	-	2,989	7,969	17,719	10,809	3,948	6,900	2,018	1,009	984	1,009
	29.26	-	-	74.92	53.17	37.7	39.36	61.14	42.77	100	100	100	100
Other yellow pines	609,981	75,065	12,160	52,160	92,453	115,021	106,355	82,864	42,401	18,688	9,870	982	1,964
	11.69	62.44	100	21.85	15.57	13.33	13.47	13.48	17.07	25.09	31.54	100	70.65
Eastern white and red pine	719,941	84,511	73,001	55,498	88,158	102,064	95,381	73,067	48,329	45,421	37,754	10,786	5,970
	12.57	42.48	57.91	19.16	22.03	17.09	14.99	15.49	19.47	18.28	20.33	39.6	40.79
Jack pine	10,770	-	-	979	1,958	4,895	2,937	-	-	-	-	-	-
	100	-	-	100	100	100	100	-	-	-	-	-	-
Cypress	1,944	-	-	-	972	-	-	972	-	-	-	-	-
	70.55	-	-	-	100	-	-	100	-	-	-	-	-
Other eastern softwoods	838,310	231,662	231,448	122,117	111,318	67,402	44,982	18,604	7,811	1,989	976	-	-
	11.83	27.22	22.75	12.92	12.99	16.66	20.08	22.73	39.4	70.72	100	-	-
Select white oaks	2,139,409	269,673	147,069	126,139	182,671	175,617	200,416	208,420	222,080	212,307	155,671	122,023	117,323
	4.71	24.82	31.13	9.61	8.25	8.23	7.92	7.68	7.38	7.44	8.32	9.24	9.69
Select red oaks	725,708	184,087	73,863	43,291	39,415	59,072	46,409	40,499	60,066	51,117	39,419	35,344	53,127
	10.44	30.48	40.78	16.61	19.3	14.21	17.6	16.29	13.32	14.06	15.72	17.04	13.76
Other white oaks	1,921,219	232,003	135,648	102,472	125,010	176,701	214,431	237,739	234,676	186,319	146,028	81,921	48,274
	6.35	36.7	39.55	11.58	10.73	9.26	8.39	7.62	7.48	8.21	8.53	11.68	15
Other red oaks	1,200,569	269,999	73,822	58,930	48,301	67,211	73,137	97,764	102,518	115,845	96,333	79,057	117,650
	7.1	24.79	40.79	15.19	16.12	13.38	12.14	10.49	11.07	9.46	10.59	11.6	9.47
Hickory	2,227,079	697,738	368,553	204,740	193,145	179,864	173,815	147,024	113,276	83,948	28,487	24,678	11,812
	6.03	14.25	18.83	7.78	7.56	7.95	8.06	8.71	9.89	10.95	19.12	19.9	28.82
Hard maple	13,082,008	7,134,634	2,939,863	1,320,494	710,306	364,762	241,384	156,666	96,451	55,319	34,626	19,671	7,832
	3.32	4.84	6.68	3.25	4.15	5.5	6.66	8.93	10.35	13.71	16.83	23.4	35.32
Soft maple	5,042,061	2,598,836	1,057,596	548,575	318,225	191,563	125,486	74,241	54,249	34,616	10,888	10,906	16,879
	5.58	8.43	11.51	5.32	6.55	8.26	9.83	12.64	14.12	18.22	30.11	30.09	24.19
Beech	9,867,230	7,898,778	1,196,578	297,728	146,428	94,748	65,263	35,547	29,616	18,628	29,604	25,679	28,631
	4.07	4.65	10.41	6.31	8.8	11.06	13.28	16.59	18.76	24.02	19.94	20.96	19.13
Sweetgum	357,563	183,837	37,703	31,601	25,597	22,537	19,621	17,785	10,909	4,973	1,009	1,009	982
	23.52	37.93	57.54	22.44	22.93	25.35	26.13	26.9	32.76	53.02	100	100	100
Tupelo and blackgum	1,642,223	873,855	419,989	167,516	75,250	48,408	19,771	15,797	12,774	5,903	-	979	1,980
	9.65	14.74	17.54	9.02	12.95	14.76	22.31	26.44	29.75	40.82	-	100	70.72
Ash	1,519,744	906,226	182,351	107,964	61,047	55,171	60,095	40,532	37,506	28,520	15,706	9,858	14,768
	10.02	14.94	25.72	10.95	13	14.38	14.07	16.95	16.55	19.72	24.94	31.6	25.75
Cottonwood and aspen	158,273	12,606	24,532	11,030	9,988	14,840	21,582	15,818	16,659	10,732	9,740	5,884	4,861
	21.58	100	70.74	52.4	40.14	27.38	22.15	27.82	28.06	32.68	37.08	40.74	44.32

(Table 11 continued on next page)

(Table 11 continued)

Species group	Diameter class	0.1-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +	
Basswood		93,683	24,164	24,398	6,855	5,851	3,947	9,789	3,978	6,837	2,976	1,948	-	2,940
		28.98	70.72	70.71	42.84	40.81	61.02	31.48	49.97	47.35	57.74	70.71	-	57.7
Yellow-poplar		3,438,119	1,699,573	383,782	287,907	197,305	157,097	136,128	128,013	92,881	97,633	80,018	65,043	112,738
		9.22	16.35	19.04	10	8.8	9.2	10.11	9.47	11.04	11.26	11.89	13.6	10.62
Black walnut		379,167	110,805	73,512	36,185	28,332	34,366	30,322	29,476	9,808	14,617	2,873	3,939	4,932
		16.89	33.31	47.12	22.99	23.62	22.36	19.4	18.17	31.6	25.66	57.74	50.01	44.72
Other eastern soft hardwoods		5,939,714	3,375,561	1,038,795	579,444	346,871	240,467	130,519	87,402	54,182	32,394	23,636	9,796	20,647
		5.19	7.52	11.65	5.74	6.54	7.94	10.13	12.28	15.43	17.81	22.01	31.57	22.77
Other eastern hard hardwoods		3,134,765	2,152,015	771,073	119,664	40,030	23,444	14,663	6,931	3,001	1,013	1,952	979	-
		7.69	9.33	13.46	12.78	20.33	22.68	29.06	37.76	74.91	100	100	100	-
Eastern noncommercial		4,301,335	3,634,843	561,472	71,764	19,554	10,782	1,944	-	976	-	-	-	-
		6.94	7.73	14.63	13.93	23.38	32.73	70.55	-	100	-	-	-	-

**Table 12. — Number of standing dead trees (at least 5 inch d.b.h.) on forest land by species and diameter class, Indiana State Forests 2008 - 2012**

Estimate: Number of standing dead trees 5"+ dbh on forestland(trees)

Sampling Error percent: Number of standing dead trees 5"+ dbh on forestland(trees)

Species	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +	
All		1,712,846	593,305	359,095	271,100	141,725	125,964	69,821	72,077	38,363	14,857	26,538
		3.05	4.88	6.03	6.89	8.85	9.4	12.23	12.56	16.31	25.76	19.19
eastern redcedar		112,474	70,363	24,480	14,662	1,013	976	-	-	-	-	979
		12.82	14.22	22.67	25.59	100	100	-	-	-	-	100
jack pine		979	979	-	-	-	-	-	-	-	-	-
		100	100	-	-	-	-	-	-	-	-	-
shortleaf pine		7,965	2,018	3,027	2,920	-	-	-	-	-	-	-
		50.04	70.59	100	74.49	-	-	-	-	-	-	-
red pine		67,012	11,806	24,100	22,093	3,002	6,011	-	-	-	-	-
		28.57	35.3	38.21	41.26	74.9	40.76	-	-	-	-	-
eastern white pine		56,828	14,695	12,734	10,698	3,903	5,938	1,931	3,970	2,957	-	-
		18.98	34.56	29.39	34.83	49.67	40.76	70.71	49.96	57.74	-	-
Virginia pine		185,056	41,484	49,319	28,482	23,552	21,610	8,825	8,838	1,964	-	982
		10.3	18.64	15.12	19.67	23.45	24.74	33.24	33.12	70.65	-	100
boxelder		1,931	959	-	-	972	-	-	-	-	-	-
		70.71	100	-	-	100	-	-	-	-	-	-
red maple		31,510	10,798	8,971	5,867	3,920	1,954	-	-	-	-	-
		18.11	30.11	33.29	40.72	49.98	70.71	-	-	-	-	-
silver maple		3,962	2,018	972	-	972	-	-	-	-	-	-
		49.91	70.59	100	-	100	-	-	-	-	-	-
sugar maple		75,786	27,508	21,634	10,902	5,902	5,882	976	1,968	1,013	-	-
		11.56	19.49	21.24	30.08	40.81	40.81	100	70.63	100	-	-
ailanthus		2,929	2,929	-	-	-	-	-	-	-	-	-
		100	100	-	-	-	-	-	-	-	-	-
European Alder		6,805	3,888	972	1,944	-	-	-	-	-	-	-
		62.05	78.95	100	70.55	-	-	-	-	-	-	-

(Table 12 continued on next page)

(Table 12 continued)

Species	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
common serviceberry	972	-	972	-	-	-	-	-	-	-	-
	100	-	100	-	-	-	-	-	-	-	-
river birch	4,036	1,009	1,009	2,018	-	-	-	-	-	-	-
	49.75	100	100	70.59	-	-	-	-	-	-	-
American hornbeam	1,013	1,013	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
bitternut hickory	4,928	1,956	1,989	-	984	-	-	-	-	-	-
	44.73	70.71	70.72	-	100	-	-	-	-	-	-
pignut hickory	21,668	3,950	1,953	5,869	979	3,000	976	3,959	982	-	-
	23.11	49.99	70.65	47.05	100	57.68	100	49.95	100	-	-
shagbark hickory	10,798	1,948	982	1,953	3,924	-	982	1,009	-	-	-
	30.1	70.71	100	70.65	49.92	-	100	100	-	-	-
American chestnut	984	-	-	-	984	-	-	-	-	-	-
	100	-	-	-	100	-	-	-	-	-	-
hackberry	1,943	971	-	971	-	-	-	-	-	-	-
	100	100	-	100	-	-	-	-	-	-	-
eastern redbud	3,942	3,942	-	-	-	-	-	-	-	-	-
	49.94	49.94	-	-	-	-	-	-	-	-	-
flowering dogwood	6,911	5,935	976	-	-	-	-	-	-	-	-
	37.77	40.82	100	-	-	-	-	-	-	-	-
common persimmon	976	-	-	-	976	-	-	-	-	-	-
	100	-	-	-	100	-	-	-	-	-	-
American beech	20,725	3,958	1,960	4,936	1,009	-	979	976	-	1,989	4,917
	23.71	50	70.71	44.71	100	-	100	100	-	70.72	44.71
white ash	24,609	5,937	5,935	4,947	2,916	-	976	3,898	-	-	-
	20.69	40.82	40.8	44.65	74.54	-	100	50.02	-	-	-
blue ash	976	976	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
butternut	2,025	1,013	1,013	-	-	-	-	-	-	-	-
	100	100	100	-	-	-	-	-	-	-	-

(Table 12 continued on next page)

(Table 12 continued)

Species	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
black walnut	6,888	2,984	-	-	1,948	1,956	-	-	-	-	-
	43.14	75.09	-	-	70.71	70.71	-	-	-	-	-
sweetgum	5,982	2,018	-	1,946	1,009	-	1,009	-	-	-	-
	47.12	70.59	-	70.76	100	-	100	-	-	-	-
yellow-poplar	69,150	22,852	15,830	7,846	7,876	2,965	5,880	976	1,013	976	2,935
	12.5	20.77	24.95	35.34	35.33	57.71	47.16	100	100	100	57.74
blackgum	10,895	5,924	982	2,977	1,013	-	-	-	-	-	-
	30.11	40.81	100	57.71	100	-	-	-	-	-	-
eastern hophornbeam	982	982	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
American sycamore	8,869	2,953	1,985	976	1,984	-	971	-	-	-	-
	36.71	57.66	70.73	100	70.73	-	100	-	-	-	-
eastern cottonwood	1,989	1,013	976	-	-	-	-	-	-	-	-
	70.72	100	100	-	-	-	-	-	-	-	-
bigtooth aspen	6,950	984	-	-	1,989	1,989	1,013	976	-	-	-
	37.75	100	-	-	70.72	70.72	100	100	-	-	-
black cherry	20,594	6,857	5,888	1,013	2,940	976	959	1,960	-	-	-
	21.62	37.78	40.65	100	57.75	100	100	70.71	-	-	-
white oak	170,402	45,287	34,495	29,668	8,821	16,708	10,828	7,906	9,810	1,989	4,890
	8.1	15.25	16.8	18.18	33.28	25.57	30.05	35.31	31.56	70.72	44.71
scarlet oak	4,012	1,009	1,009	-	982	-	1,013	-	-	-	-
	61.36	100	100	-	100	-	100	-	-	-	-
northern pin oak	1,009	-	1,009	-	-	-	-	-	-	-	-
	100	-	100	-	-	-	-	-	-	-	-
shingle oak	2,953	1,009	-	972	972	-	-	-	-	-	-
	57.66	100	-	100	100	-	-	-	-	-	-
chinkapin oak	14,642	2,929	3,906	2,924	2,929	-	-	-	1,953	-	-
	27.24	57.64	49.87	57.7	57.64	-	-	-	70.65	-	-
pin oak	5,012	-	-	-	976	-	-	4,036	-	-	-
	82.84	-	-	-	100	-	-	100	-	-	-

(Table 12 continued on next page)



(Table 12 continued)

Species	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
chestnut oak	152,953	19,766	19,668	37,559	14,829	23,596	13,843	10,866	6,903	2,946	2,977
	10.12	24.37	23.23	18.48	27.48	24.18	30.18	30.09	37.76	57.64	57.71
northern red oak	46,274	7,857	3,922	5,966	2,967	8,850	5,895	2,948	3,925	976	2,967
	15.96	35.33	61.23	46.92	57.74	33.3	40.76	57.7	49.98	100	57.74
post oak	3,906	976	1,953	-	-	976	-	-	-	-	-
	49.87	100	70.65	-	-	100	-	-	-	-	-
black oak	101,616	14,797	8,934	10,832	13,824	12,743	7,856	15,835	5,895	5,981	4,919
	10.37	25.77	36.94	30.12	26.67	27.7	35.32	24.96	40.8	40.79	44.73
black locust	34,219	20,472	5,910	4,905	1,956	976	-	-	-	-	-
	24.35	27.73	40.65	44.61	70.71	100	-	-	-	-	-
sassafras	323,926	186,938	78,802	34,563	14,804	3,903	2,961	1,956	-	-	-
	7.83	10.29	12.61	17.3	30.42	50	57.71	70.71	-	-	-
American basswood	3,950	982	-	-	-	2,968	-	-	-	-	-
	50.01	100	-	-	-	57.74	-	-	-	-	-
American elm	31,373	16,717	4,937	3,848	1,941	1,009	972	-	976	-	971
	18.08	24.21	44.72	49.99	70.72	100	100	-	100	-	100
slippery elm	14,746	4,964	2,929	1,949	2,957	-	976	-	971	-	-
	30.46	44.73	74.49	70.71	57.74	-	100	-	100	-	-
unknown hardwood	9,812	982	2,962	4,891	-	976	-	-	-	-	-
	39.83	100	57.74	52.8	-	100	-	-	-	-	-

**Table 13. — Number of standing dead trees (at least 5 inch d.b.h.) on forest land by decay code and diameter class, Indiana State Forests 2008 - 2012**

Estimate: Number of standing dead trees 5"+ dbh on forestland(trees)

Sampling Error percent: Number of standing dead trees 5"+ dbh on forestland(trees)

Decay code	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +	
All		1,712,846	593,305	359,095	271,100	141,725	125,964	69,821	72,077	38,363	14,857	26,538
		3.05	4.88	6.03	6.89	8.85	9.4	12.23	12.56	16.31	25.76	19.19
1: All limbs and branches present		288,525	109,632	65,016	38,331	21,572	15,815	8,839	12,694	9,784	1,958	4,883
		6.78	10.26	13.22	17.16	22.19	26.45	36.8	27.66	31.57	70.71	44.71
2: Few limbs and no fine branches		280,360	91,514	67,108	46,334	23,381	18,691	10,751	9,815	6,860	1,989	3,917
		6.79	11.17	13.37	15.67	20.99	22.89	30.04	31.57	37.74	70.72	49.94
3: Only limb stubs present		530,113	181,126	92,698	81,852	43,407	54,119	25,578	19,825	15,771	6,896	8,841
		5	8.4	11.15	11.64	15.67	14.53	20.27	22.29	24.93	37.76	33.32
4: Few or no limb stubs remain		483,487	163,616	104,588	78,917	44,486	29,484	20,737	24,792	5,948	3,001	7,918
		5.39	8.54	10.4	12.04	15.15	18.79	22.77	24.42	40.79	57.71	35.32
5: No evidence of branches remain		130,361	47,417	29,686	25,666	8,880	7,855	3,917	4,950	-	1,013	979
		9.8	16.28	19.31	19.53	33.3	35.34	50	44.69	-	100	100

**Table 14. — Number of live trees on forest land by cavity present and diameter class, Indiana State Forests 2008 - 2012**

Estimate: Total-Number of all live trees on forestland(trees)

Sampling Error percent: Post Stratification: Total Number of all live trees on forestland(trees)

Cavity Presence	Diameter class	0.1-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +	
All		59,406,169	32,650,471	9,827,207	4,356,042	2,876,155	2,227,697	1,845,239	1,523,086	1,263,908	1,024,976	727,547	509,518	574,321
		1.57	2.46	3.68	1.83	2.21	2.43	2.55	2.74	2.96	3.27	3.79	4.49	4.26
No Tree Cavity		58,212,375	32,650,471	9,827,207	4,086,106	2,673,644	2,073,841	1,692,076	1,432,116	1,164,036	955,732	686,978	464,157	506,010
		1.61	2.46	3.68	1.88	2.26	2.52	2.68	2.83	3.08	3.39	3.88	4.7	4.52
Tree Cavity		1,193,793	-	-	269,936	202,511	153,856	153,163	90,970	99,871	69,244	40,569	45,361	68,311
		3.24	-	-	6.39	7.58	8.37	8.39	10.41	10.56	12.15	15.91	15.28	12.1

**Table 20. — Net volume of live trees (at least 5 inches d.b.h.), in cubic feet, on forest land by species and diameter class, Indiana State Forests 2008 - 2012**

Estimate: Volume of all live on forestland(cuft)

Sampling Error percent: Volume of all live on forestland(cuft)

Species	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
All	337,418,250	10,232,719	14,985,598	21,294,522	28,612,677	35,248,694	41,026,608	44,694,786	41,291,512	36,722,588	63,308,547
	1.26	1.87	2.23	2.43	2.58	2.77	2.98	3.3	3.85	4.57	4.54
redcedar/juniper spp.	6,544	-	6,544	-	-	-	-	-	-	-	-
	100	-	100	-	-	-	-	-	-	-	-
eastern redcedar	2,402,215	247,911	481,740	517,214	522,463	325,558	196,952	66,767	43,611	-	-
	12.51	12.92	13.5	16.76	21.17	22.96	39.86	71.33	100	-	-
Norway spruce	14,443	-	-	-	14,443	-	-	-	-	-	-
	100	-	-	-	100	-	-	-	-	-	-
jack pine	105,877	2,961	11,648	48,534	42,734	-	-	-	-	-	-
	100	100	100	100	100	-	-	-	-	-	-
shortleaf pine	1,119,584	8,054	44,823	184,990	168,300	95,195	249,134	94,205	66,182	76,490	132,211
	28.66	75.79	52.62	37.92	38.9	59.07	43.3	100	100	100	100
red pine	2,873,260	55,790	275,314	575,825	747,294	499,940	221,507	222,325	131,361	-	143,906
	19.07	36.02	33.91	24.73	23.1	25.04	52.22	54.71	70.8	-	100
eastern white pine	9,270,494	81,054	173,046	376,940	717,146	1,188,784	1,400,672	1,804,167	2,182,981	821,143	524,561
	13.55	20.39	23.2	21.02	18.65	19.51	21.19	19.37	21.09	39.71	45.07
Virginia pine	8,587,458	127,575	504,821	1,135,666	1,707,546	1,986,419	1,436,041	868,197	554,886	73,632	192,675
	9.16	22.28	15.65	13.13	13.41	13.67	17.14	25.66	31.58	100	70.75
baldcypress	27,350	-	4,254	-	-	23,096	-	-	-	-	-
	85.8	-	100	-	-	100	-	-	-	-	-
boxelder	389,621	42,571	53,865	136,344	45,731	44,844	23,132	43,134	-	-	-
	29.69	33.68	34.8	37.66	51.64	71.61	100	100	-	-	-
black maple	29,956	-	-	-	-	29,956	-	-	-	-	-
	100	-	-	-	-	100	-	-	-	-	-
red maple	13,943,890	1,301,293	1,607,325	1,766,169	1,838,288	1,678,809	1,559,944	1,393,156	530,332	762,430	1,506,144
	6.29	5.49	6.54	8.61	10.31	12.84	15.17	19.53	33.35	31.61	28.37
silver maple	1,408,098	36,107	106,761	131,424	135,159	76,663	240,320	107,374	120,545	82,621	371,124
	29.34	32.99	44.35	34.05	35.46	74.03	42.95	59.29	70.72	100	59.12
sugar maple	29,723,711	3,391,987	4,046,967	3,823,013	4,055,063	3,831,578	3,447,181	2,646,218	2,149,687	1,449,637	882,378
	3.61	3.35	4.23	5.58	6.76	8.99	10.41	13.91	16.88	23.91	36.77
Ohio buckeye	74,818	9,124	13,304	7,200	-	-	-	45,191	-	-	-
	66.01	77.2	78.72	100	-	-	-	100	-	-	-
ailanthus	24,799	2,826	13,629	8,344	-	-	-	-	-	-	-
	63.71	71.76	59.02	100	-	-	-	-	-	-	-
European Alder	49,421	6,702	13,485	17,358	11,876	-	-	-	-	-	-
	64.21	79.45	74.14	70.56	100	-	-	-	-	-	-
roundleaf serviceberry	1,766	1,766	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
river birch	149,242	29,567	25,773	67,526	26,376	-	-	-	-	-	-
	36.07	59.01	47.05	38.12	100	-	-	-	-	-	-
paper birch	2,183	2,183	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
American hornbeam	30,078	25,156	4,922	-	-	-	-	-	-	-	-
	31.46	27.59	100	-	-	-	-	-	-	-	-
bitternut hickory	2,047,535	14,492	60,547	141,511	191,785	423,969	316,404	601,715	71,101	226,010	-
	15.78	38.62	29.4	27.02	33.25	25.79	33.5	28.13	100	57.81	-
pignut hickory	13,966,990	276,698	617,125	1,164,813	1,674,215	1,931,825	2,675,373	2,511,619	1,226,285	929,921	959,116
	6.06	10.3	9.56	9.87	10.33	11.7	12.21	14.27	23.52	28.86	31.72
shellbark hickory	84,032	2,293	14,707	11,015	-	56,017	-	-	-	-	-
	52.41	100	70.62	100	-	70.8	-	-	-	-	-
shagbark hickory	5,850,339	172,806	298,755	426,195	870,629	1,118,732	910,075	830,738	445,173	674,858	102,378
	8.57	13.93	14.21	15.21	14.16	15.27	20.4	23.56	35.34	33.35	100
mockernut hickory	324,438	7,731	4,769	6,359	81,773	80,437	66,614	-	-	76,756	-
	34.58	59.13	100	100	53.27	50.39	70.68	-	-	100	-
red hickory	144,805	-	6,262	-	16,974	-	-	39,990	-	-	81,579
	64.64	-	100	-	100	-	-	100	-	-	100

(Table 20 continued on next page)

(Table 20 continued)

Species	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
American chestnut	14,419	1,538	4,334	-	8,547	-	-	-	-	-	-
	100	100	100	-	100	-	-	-	-	-	-
Chinese chestnut	2,023	2,023	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
hackberry	621,569	29,983	29,970	65,340	23,355	80,252	-	64,595	179,276	61,444	87,353
	27.12	30.5	43.73	47	70.72	60.17	-	71.39	57.8	100	100
eastern redbud	92,028	43,633	30,342	18,053	-	-	-	-	-	-	-
	23.67	24.29	35.63	58.06	-	-	-	-	-	-	-
flowering dogwood	127,530	110,064	17,466	-	-	-	-	-	-	-	-
	19.98	18.77	45.18	-	-	-	-	-	-	-	-
persimmon spp.	12,879	-	-	12,879	-	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-	-
common persimmon	187,431	44,224	54,254	43,013	28,192	17,747	-	-	-	-	-
	23.83	24.67	45.01	51.6	71.44	100	-	-	-	-	-
American beech	12,870,195	684,401	761,606	879,585	1,003,902	843,866	985,673	859,592	1,734,422	1,898,292	3,218,856
	7.79	6.56	9.01	11.19	13.47	16.73	19.04	24.17	20.05	21.08	19.7
white ash	7,828,678	185,896	274,215	468,904	815,343	904,990	1,079,310	1,118,150	905,451	707,684	1,368,734
	9	12.57	14.17	15.92	15.43	17.55	18.28	20.69	25.03	31.65	28.32
green ash	741,455	45,058	19,589	54,782	108,164	102,535	205,068	101,203	-	-	105,055
	28.33	25.23	51.09	41.17	37.93	62.04	40.91	100	-	-	100
blue ash	188,781	5,662	15,488	-	-	-	-	86,423	-	-	81,208
	69.79	100	58.51	-	-	-	-	70.66	-	-	100
honeylocust	246,364	6,229	14,223	16,349	48,229	20,937	30,036	-	110,360	-	-
	62.03	71.85	77.82	70.71	74.07	100	100	-	100	-	-
butternut	18,949	1,564	-	-	-	17,386	-	-	-	-	-
	92.12	100	-	-	-	100	-	-	-	-	-
black walnut	3,314,349	77,182	130,581	305,317	429,378	634,605	306,755	574,287	144,373	260,047	451,825
	12.34	24.47	23.24	21.7	19.74	18.28	31.71	25.72	57.85	50.04	45.04
sweetgum	1,896,501	69,222	125,584	200,086	314,045	383,957	354,669	218,066	54,292	62,368	114,213
	18.15	23.22	22.79	25.79	26.4	26.52	33.67	53.42	100	100	100
yellow-poplar	46,505,580	747,202	1,144,069	1,711,555	2,536,517	3,595,811	3,728,276	5,291,915	5,743,896	6,006,230	16,000,108
	5.4	9.95	8.92	9.34	10.14	9.58	11.15	11.35	11.96	13.76	10.99
Osage-orange	7,416	-	-	7,416	-	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-	-
apple spp.	5,425	5,425	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
mulberry spp.	5,445	1,617	3,829	-	-	-	-	-	-	-	-
	76.2	100	100	-	-	-	-	-	-	-	-
red mulberry	3,439	3,439	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
blackgum	2,575,936	325,356	342,327	399,599	289,958	337,354	405,268	257,877	-	68,576	149,622
	10.79	9.11	13.02	14.92	22.49	26.78	30.24	40.85	-	100	71.21
eastern hophornbeam	73,648	26,304	14,382	7,578	-	-	25,385	-	-	-	-
	38.37	25.35	50.72	100	-	-	100	-	-	-	-
paulownia	5,578	-	5,578	-	-	-	-	-	-	-	-
	100	-	100	-	-	-	-	-	-	-	-
American sycamore	6,039,584	77,678	130,938	229,503	258,382	630,157	730,923	792,054	707,806	463,151	2,018,991
	15.38	26.51	24.04	27.02	28.27	24.73	24.77	25.84	34.96	44.73	32.19
balsam poplar	14,424	-	-	-	14,424	-	-	-	-	-	-
	100	-	-	-	100	-	-	-	-	-	-
eastern cottonwood	2,213,981	-	14,580	7,927	98,320	121,824	206,193	135,487	547,166	235,114	847,371
	25.79	-	57.91	100	40.69	44.51	46.61	57.59	39.23	57.68	47.53
bigtooth aspen	1,644,917	27,154	35,394	142,672	233,038	263,859	364,576	314,650	51,958	211,616	-
	21.4	59.88	59.15	28.81	27.74	35.12	35.34	43.32	100	57.78	-
quaking aspen	46,924	-	5,650	-	-	-	-	41,274	-	-	-
	88.78	-	100	-	-	-	-	100	-	-	-
pin cherry	1,846	1,846	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
black cherry	2,902,322	153,935	212,685	417,344	328,479	393,291	231,013	334,647	321,948	135,256	373,724
	12.04	13.96	15.11	18.63	22.89	24.46	37.89	35.36	41.51	70.9	50.19
white oak	51,681,512	250,061	819,489	1,525,449	2,759,439	4,248,942	6,287,726	8,411,315	8,123,926	8,085,344	11,169,821
	3.83	10.63	8.96	8.44	8.25	8	7.73	7.54	8.36	9.35	9.95

(Table 20 continued on next page)

(Table 20 continued)

Species	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
scarlet oak	2,405,367	10,590	9,973	67,509	178,856	283,838	246,561	587,453	219,088	339,722	461,777
	15.1	51.82	71.22	42.07	27.78	27.92	35.41	27.62	50.03	44.73	45.55
northern pin oak	159,575	2,886	4,989	10,715	40,553	19,048	33,137	48,247	-	-	-
	41.98	100	100	100	58.92	100	100	100	-	-	-
shingle oak	188,208	18,108	24,157	26,741	54,683	18,924	-	-	45,596	-	-
	32.85	36.06	45.59	58.45	50.84	100	-	-	100	-	-
bur oak	2,353	2,353	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
chinkapin oak	1,559,777	40,608	99,014	78,086	191,313	254,051	405,134	223,416	50,580	130,715	86,860
	16.68	26.27	24.82	33.55	31.26	31.32	29.17	40.83	100	70.65	100
pin oak	671,499	9,119	17,907	42,546	48,156	62,015	130,138	79,606	60,867	-	221,145
	37.8	65.13	72.81	54.02	57.76	57.67	60.36	70.86	100	-	71.56
chestnut oak	39,898,037	223,871	538,552	1,464,586	2,926,545	4,675,465	6,586,239	7,061,324	7,186,921	5,087,208	4,147,325
	4.38	11.74	11.16	9.53	8.51	7.77	7.5	8.22	8.55	11.76	15.23
northern red oak	16,803,950	109,437	213,251	595,004	751,057	964,787	1,974,166	2,210,163	2,183,177	2,450,758	5,352,150
	6.56	17.13	19.91	14.34	17.82	16.26	13.43	14.15	15.8	17.1	14
post oak	490,617	4,705	52,623	65,060	52,283	137,883	80,310	37,218	-	60,534	-
	31.63	73.1	39.8	41.06	60.94	46.26	76.37	100	-	100	-
black oak	31,917,744	108,983	192,276	476,429	722,116	1,784,494	2,794,962	4,150,453	5,005,238	5,094,785	11,588,008
	5.28	18.44	18.16	14.91	14.9	11.73	11.98	10.05	10.92	12.08	9.96
black locust	663,660	57,612	70,256	147,592	121,225	94,688	62,282	42,445	-	67,561	-
	23.19	26.64	30.05	27.56	36.34	46.01	100	100	-	100	-
sassafras	4,669,748	502,575	775,126	914,166	873,920	510,134	651,933	121,967	169,316	59,965	90,645
	10.22	9.83	10.36	11.8	16.22	27.35	27.64	58.86	73.7	100	100
American basswood	1,121,209	16,801	29,980	40,038	156,111	100,012	226,824	145,928	118,110	-	287,404
	22.39	46.74	41.37	62	31.85	50.31	46.9	57.78	70.72	-	58.04
winged elm	12,822	3,982	8,841	-	-	-	-	-	-	-	-
	54.5	73.74	71.78	-	-	-	-	-	-	-	-
American elm	1,148,874	211,221	199,543	166,292	220,241	148,529	63,585	33,864	105,598	-	-
	12.51	11.5	15.13	23.65	26.41	38.11	71.18	100	70.75	-	-
Siberian elm	5,440	-	5,440	-	-	-	-	-	-	-	-
	100	-	100	-	-	-	-	-	-	-	-
slippery elm	1,144,403	134,167	146,710	131,434	110,109	205,490	87,118	76,371	-	62,722	190,281
	17.29	15.64	19.15	26.08	36.01	31.99	57.89	70.82	-	100	70.71
rock elm	2,360	2,360	-	-	-	-	-	-	-	-	-
	100	100	-	-	-	-	-	-	-	-	-
unknown hardwood	8,532	-	-	8,532	-	-	-	-	-	-	-
	100	-	-	100	-	-	-	-	-	-	-

**Table 21. — Net volume of live trees (at least 5 inches d.b.h.), in cubic feet, on forest land by state forest and major species group, Indiana State Forests 2008 - 2012**

Estimate: Volume of all live on forestland(cuft)

**Sampling Error percent: Volume of all live on forestland(cuft)**

State Forest	Species group major	Softwoods	Hardwoods
All	337,418,250	24,407,226	313,011,024
	1.26	6.73	1.34
Clark State Forest	54,008,885	4,810,272	49,198,613
	2.78	13.64	2.94
Ferdinand State Forest	31,765,171	4,294,686	27,470,485
	4.59	18.99	4.93
Greene-Sullivan State Forest	12,409,149	2,221,351	10,187,798
	8.59	19.56	9.89
Harrison-Crawford State Forest	51,760,685	4,089,857	47,670,828
	2.97	12.7	3.32
Jackson-Washington State Forest	40,176,733	883,971	39,292,762
	3.3	29.09	3.42
Martin State Forest	16,747,440	1,018,911	15,728,530
	6.21	40.12	6.51
Morgan-Monroe State Forest	54,700,211	1,456,514	53,243,697
	3.33	29.41	3.4
Owen-Putnam State Forest	15,620,037	1,330,557	14,289,480
	5.91	31.49	6.29
Salamonie State Forest	3,484,594	1,108,565	2,376,029
	12.35	35.24	15.54
Selmier State Forest	823,781	-	823,781
	21.73	-	21.73
Yellowwood State Forest	55,921,563	3,192,542	52,729,021
	3.13	19.8	3.26

**Table 22. — Net volume of live trees (at least 5 inches d.b.h.), in cubic feet, on forest land by state forest and species group, Indiana State Forests 2008 - 2012**

Estimate: Volume of all live on forestland(cuft)

Sampling Error percent: Volume of all live on forestland(cuft)

State Forest	Species group	Loblolly and shortleaf pine	Other yellow pines	Eastern white and red pine	Jack pine	Cypress	Other eastern softwoods	Select white oaks	Select red oaks	Other white oaks	Other red oaks	Hickory	Hard maple
All	337,418,250	1,119,584	8,587,458	12,143,754	105,877	27,350	2,423,203	53,243,642	16,803,950	40,388,653	35,342,394	22,418,139	29,753,666
	1.26	28.66	9.16	11.25	100	85.8	12.42	3.73	6.56	4.34	5.01	4.74	3.62
Clark State Forest	54,008,885	100,081	3,943,495	747,236	-	-	19,460	11,196,679	2,254,178	16,380,285	2,921,898	2,309,650	3,268,512
	2.78	100	13.06	50.26	-	-	65.2	7.65	18.49	6.2	16.98	14.15	11.32
Ferdinand State Forest	31,765,171	444,721	490,071	3,359,894	-	-	-	4,554,193	911,369	658,429	3,054,453	3,098,414	1,933,422
	4.59	50.98	35.84	23.06	-	-	-	12.92	25.81	49.38	17.08	13	14.44
Greene-Sullivan State Forest	12,409,149	70,009	917,285	1,205,138	-	27,350	1,570	175,989	350,765	130,188	590,528	165,738	6,911
	8.59	74.18	26.81	30.54	-	85.8	100	45.35	38.15	100	34.72	69.37	100
Harrison-Crawford State Forest	51,760,685	123,315	1,323,340	517,390	-	-	2,125,812	12,098,399	3,633,803	1,558,056	4,921,387	3,431,272	6,735,298
	2.97	72.06	27.77	37.24	-	-	13.72	7.77	14.33	28.84	12.24	10.62	7.23
Jackson-Washington State Forest	40,176,733	117,941	442,292	197,828	-	-	125,910	4,327,963	1,447,716	11,857,053	3,083,854	3,494,643	4,679,196
	3.3	73.7	40.7	60.24	-	-	34.1	13.41	22.76	8.06	17.53	12.47	9.58
Martin State Forest	16,747,440	184,934	69,733	753,575	-	-	10,668	2,844,768	525,386	2,569	1,514,505	1,991,721	1,437,458
	6.21	78.75	61.18	50.19	-	-	76.26	16.54	33.77	100	22.79	17.88	14.09
Morgan-Monroe State Forest	54,700,211	16,387	125,866	1,254,953	-	-	59,308	8,060,369	3,232,526	4,090,430	9,167,769	3,454,518	4,951,165
	3.33	100	45.06	33.72	-	-	54.39	10.11	14.03	14.46	10.24	12.56	9.29
Owen-Putnam State Forest	15,620,037	-	158,753	1,057,151	105,877	-	8,775	1,474,276	1,670,612	-	363,894	1,143,969	1,528,094
	5.91	-	52.97	36.75	100	-	100	26.14	22.85	-	56.3	21.33	15.96
Salamonie State Forest	3,484,594	-	54,426	1,050,235	-	-	3,904	25,003	405,768	-	-	170,832	456,223
	12.35	-	100	37.25	-	-	100	65.22	57.53	-	-	64.41	35.51
Selmier State Forest	823,781	-	-	-	-	-	-	1,422	-	-	179,531	75,480	37,839
	21.73	-	-	-	-	-	-	100	-	-	100	64.42	100
Yellowwood State Forest	55,921,563	62,196	1,062,198	2,000,353	-	-	67,796	8,484,581	2,371,827	5,711,643	9,544,575	3,081,902	4,719,549
	3.13	71.03	26.47	27.88	-	-	71.12	9.14	16.48	11.83	9.65	12	8.65

(Table 22 continued on next page)



(Table 22 continued)

State Forest	Soft maple	Beech	Sweetgum	Tupelo and blackgum	Ash	Cottonwood and aspen	Basswood	Yellow-poplar	Black walnut	Other eastern soft hardwoods	Other eastern hard hardwoods	Eastern noncommercial hardwoods
All	15,351,988	12,870,195	1,896,501	2,575,936	8,758,913	3,920,246	1,121,209	46,505,580	3,314,349	17,185,153	1,236,230	324,280
	6.32	7.79	18.15	10.79	8.51	17.08	22.39	5.4	12.34	6.78	18.09	17.44
Clark State Forest	2,608,307	2,177,921	322,543	533,846	505,825	93,471	190,284	3,274,248	105,784	1,016,095	11,697	27,388
	11.62	22.39	41.88	19.62	35.92	54.39	68.43	18.09	42.16	28.9	36.74	44.5
Ferdinand State Forest	2,462,380	420,912	804,870	269,449	953,831	-	-	6,053,112	247,795	1,980,827	59,474	7,557
	17.35	33.96	33.03	29.17	21.6	-	-	15.63	41.03	18.94	46.11	51.18
Greene-Sullivan State Forest	2,075,356	-	625,378	2,245	124,527	2,320,769	-	555,469	397,926	2,362,657	235,724	67,628
	24.44	-	25.42	100	37.39	24.74	-	38.35	35.03	18.15	25.71	52.58
Harrison-Crawford State Forest	1,014,131	765,475	1,547	390,791	2,506,150	-	234,010	6,734,120	509,231	2,781,880	295,340	59,938
	19.87	27.61	100	28.31	15.77	-	54.41	13.49	27.03	13.06	21.11	32.59
Jackson-Washington State Forest	1,366,240	1,947,342	83,587	223,862	1,225,390	196,287	91,021	3,859,789	123,474	1,197,167	30,503	57,675
	17.29	18.31	53.88	44.13	25.36	44.18	60.88	19.1	46.86	16.6	41.82	37.42
Martin State Forest	486,388	779,629	-	213,756	667,835	14,424	60,026	3,655,954	422,951	1,069,264	19,584	22,312
	26.9	30.55	-	49.91	29.8	100	100	20.83	33.45	31.98	64.61	40.93
Morgan-Monroe State Forest	1,909,058	3,149,183	-	335,206	1,105,136	564,474	247,837	8,936,778	404,406	3,391,951	202,809	40,083
	14.53	16.13	-	27.23	25.43	34.86	42.37	12.43	35.69	18.6	70.18	65.11
Owen-Putnam State Forest	611,409	623,508	-	186,634	262,290	298,516	137,227	4,229,289	166,321	1,494,397	92,499	6,543
	27.38	31.5	-	59.05	43.69	76.72	62.77	16.37	48.99	18.67	82.49	64.9
Salamonie State Forest	-	8,050	-	3,395	228,483	-	34,147	276,615	400,491	283,944	71,682	11,396
	-	75.08	-	100	54.22	-	74.47	59.26	43.54	25.72	77.43	66.04
Selmier State Forest	44,647	46,542	58,577	1,947	-	-	-	251,021	87,065	32,879	6,831	-
	61.04	85.36	80.68	100	-	-	-	56.12	100	48.38	100	-
Yellowwood State Forest	2,774,072	2,951,632	-	414,804	1,179,445	432,305	126,656	8,679,185	448,905	1,574,094	210,086	23,760
	15.74	15.86	-	19.1	23.69	30.34	50.52	13.23	37.16	26.82	52.44	38.19

**Table 23. — Net volume of live trees (at least 5 inches d.b.h.), in cubic feet, on forest land by tree class and diameter class, Indiana State Forests 2008 - 2012**

Estimate: Total-Volume of all live on forestland(cuft)

Sampling Error percent: Post Stratification: Total Volume of all live on forestland(cuft)

Tree class	Diameter class	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
All	337,418,250	10,232,719	14,985,598	21,294,522	28,612,677	35,248,694	41,026,608	44,694,786	41,291,512	36,722,588	63,308,547
	1.26	1.87	2.23	2.43	2.58	2.77	2.98	3.3	3.85	4.57	4.54
Growing stock	327,467,348	9,334,530	14,036,881	20,282,362	27,430,998	34,254,543	40,157,389	43,943,515	40,494,972	35,864,500	61,667,657
	1.3	1.96	2.3	2.51	2.65	2.82	3.02	3.33	3.9	4.65	4.61
Rough cull	7,482,779	810,141	824,594	891,961	978,723	765,321	691,318	528,902	737,091	490,316	764,412
	6.59	5.77	8.22	10.05	11.55	16.69	19.77	27.15	25.18	35.57	36.62
Rotten cull	2,468,123	88,048	124,123	120,199	202,956	228,830	177,901	222,369	59,448	367,772	876,477
	14.62	13.68	16.38	24.27	21.63	24.95	31.77	33.36	70.96	35.69	32.67

**Table 30. — Net volume of sawtimber trees (International 1/4 inch rule), in board feet, on forest land by species and diameter class, Indiana State Forests 2008 - 2012**

Estimate: Volume of sawtimber on forestland(bdft - FIA)

Sampling Error percent: Volume of sawtimber on forestland(bdft - FIA)

Species	Diameter class	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
All	1,378,946,740	12,973,621	132,876,929	167,276,116	196,271,668	214,237,073	196,558,897	171,780,378	286,972,059
	1.47	9.56	2.66	2.83	3.02	3.35	3.93	4.71	4.65
eastern redcedar	6,718,691	2,078,585	2,158,789	1,301,004	702,710	293,611	183,992	-	-
	17.71	20.33	25.02	25.65	47.11	71.17	100	-	-
Norway spruce	66,649	-	66,649	-	-	-	-	-	-
	100	-	100	-	-	-	-	-	-
jack pine	439,182	231,266	207,916	-	-	-	-	-	-
	100	100	100	-	-	-	-	-	-
shortleaf pine	5,530,375	912,904	843,436	492,462	1,308,280	497,678	355,848	408,646	711,121
	29.22	38.11	38.82	59.07	43.19	100	100	100	100
red pine	12,286,822	2,680,757	3,606,421	2,435,051	1,108,026	1,092,530	655,116	-	708,920
	19.16	24.73	23.14	24.95	52.12	54.17	70.78	-	100
eastern white pine	44,175,089	1,704,952	3,344,667	5,746,254	6,861,696	8,964,406	10,851,422	4,116,873	2,584,820
	13.8	21.24	18.65	19.49	21.2	19.43	21.02	39.78	45.02
Virginia pine	40,475,534	5,365,158	8,529,832	10,294,988	7,315,253	4,467,378	3,043,485	395,020	1,064,420
	9.58	13.57	13.43	13.8	17.38	26.28	31.58	100	70.72
baldcypress	104,251	-	-	104,251	-	-	-	-	-
	100	-	-	100	-	-	-	-	-
boxelder	524,183	-	124,221	204,922	-	195,040	-	-	-
	57.84	-	70.73	71.55	-	100	-	-	-
black maple	145,989	-	-	145,989	-	-	-	-	-
	100	-	-	100	-	-	-	-	-
red maple	37,978,562	-	7,334,696	7,014,769	6,766,100	5,584,434	2,316,048	3,302,955	5,659,560
	8.8	-	10.7	13.25	15.3	20.82	33.35	31.6	29.96
silver maple	4,592,909	-	526,863	335,400	937,664	365,956	526,429	355,728	1,544,870
	35.94	-	37.85	73.98	46.73	70.71	70.72	100	58.87
sugar maple	83,363,904	-	18,484,745	17,403,181	16,183,848	12,201,967	10,148,722	5,853,589	3,087,852
	5.4	-	7.01	9.29	10.58	14.19	16.88	26.47	41.9

(Table 30 continued on next page)

(Table 30 continued)

Species	Diameter class	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
Ohio buckeye	202,763	-	-	-	-	202,763	-	-	-
	100	-	-	-	-	100	-	-	-
river birch	119,324	-	119,324	-	-	-	-	-	-
	100	-	100	-	-	-	-	-	-
bitternut hickory	8,671,275	-	954,004	2,114,369	1,579,267	2,892,114	355,248	776,273	-
	17.56	-	33.27	25.82	33.51	28.97	100	70.71	-
pignut hickory	58,736,869	-	8,121,385	9,423,011	13,219,750	12,505,921	6,101,784	4,618,079	4,746,940
	6.87	-	10.45	11.89	12.29	14.28	23.52	28.86	31.72
shellbark hickory	270,398	-	-	270,398	-	-	-	-	-
	70.8	-	-	70.8	-	-	-	-	-
shagbark hickory	23,981,234	-	4,201,495	5,410,219	4,405,262	4,026,677	2,160,929	3,277,731	498,921
	9.78	-	14.16	15.26	20.4	23.56	35.34	33.35	100
mockernut hickory	1,400,095	-	395,659	311,861	322,531	-	-	370,043	-
	38	-	53.31	57.82	70.67	-	-	100	-
red hickory	684,368	-	85,039	-	-	197,088	-	-	402,242
	66.49	-	100	-	-	100	-	-	100
hackberry	2,023,770	-	107,905	372,955	-	163,340	765,622	261,710	352,238
	33.81	-	70.72	60.11	-	100	57.84	100	100
common persimmon	211,181	-	129,385	81,796	-	-	-	-	-
	58.33	-	71.33	100	-	-	-	-	-
American beech	45,334,770	-	4,605,477	3,961,177	4,397,621	4,115,941	7,307,962	8,007,128	12,939,463
	9.46	-	14.22	17.44	20.45	24.77	21.54	23.07	20.36
white ash	31,265,592	-	3,446,852	4,117,669	4,813,270	5,130,121	4,078,135	3,371,595	6,307,950
	10.15	-	15.93	17.8	18.92	21.14	25.84	31.65	28.17
green ash	2,892,801	-	488,955	476,663	966,559	482,291	-	-	478,333
	32.62	-	37.96	62.07	40.92	100	-	-	100
blue ash	795,401	-	-	-	-	411,009	-	-	384,393
	78.33	-	-	-	-	70.66	-	-	100
honeylocust	947,325	-	221,031	96,974	136,949	-	492,370	-	-
	69.39	-	74.14	100	100	-	100	-	-

(Table 30 continued on next page)

(Table 30 continued)

Species	Diameter class	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
butternut	80,619	-	-	80,619	-	-	-	-	-
	100	-	-	100	-	-	-	-	-
black walnut	13,128,467	-	2,070,600	3,004,947	1,471,708	2,741,515	676,640	1,194,201	1,968,857
	13.47	-	19.74	18.58	31.72	25.71	57.89	50.04	44.99
sweetgum	6,773,518	-	1,431,247	1,755,794	1,610,166	979,564	242,796	278,776	475,175
	20.58	-	26.38	26.55	33.59	53.46	100	100	100
yellow-poplar	218,056,478	-	12,654,898	18,079,230	19,119,168	27,446,148	30,016,452	30,697,753	80,042,829
	5.81	-	10.16	9.69	11.33	11.49	12.04	14.08	11
blackgum	6,562,524	-	1,331,234	1,553,860	1,847,293	1,166,933	-	300,564	362,640
	17.62	-	22.49	26.76	30.23	40.85	-	100	100
American sycamore	25,441,085	-	1,181,672	2,919,890	3,143,779	3,784,553	3,392,144	2,225,051	8,793,996
	16.47	-	28.3	24.73	25.5	25.86	35.1	44.81	32.33
balsam poplar	66,902	-	66,902	-	-	-	-	-	-
	100	-	100	-	-	-	-	-	-
eastern cottonwood	10,700,667	-	457,438	592,340	1,009,201	691,963	2,828,501	1,184,684	3,936,539
	25.58	-	40.87	44.51	46.86	57.61	39.2	57.74	46.47
bigtooth aspen	7,055,555	-	1,085,566	1,296,688	1,848,081	1,593,679	256,525	975,017	-
	23.98	-	27.82	35.25	35.37	43.08	100	57.77	-
quaking aspen	201,852	-	-	-	-	201,852	-	-	-
	100	-	-	-	-	100	-	-	-
black cherry	8,473,648	-	1,277,837	1,661,214	924,929	1,508,911	1,278,671	595,219	1,226,868
	16.3	-	25.51	25.12	40.85	35.35	44.88	70.86	57.92
white oak	222,038,141	-	13,455,655	20,315,629	29,717,551	39,001,882	36,420,584	35,717,440	47,409,400
	3.92	-	8.29	8.05	7.74	7.56	8.45	9.39	9.89
scarlet oak	11,119,313	-	819,305	1,337,948	1,220,401	2,900,184	1,065,865	1,628,802	2,146,809
	15.45	-	28.92	28.94	35.41	27.59	50.03	44.72	45.34
northern pin oak	689,014	-	199,497	93,608	162,582	233,327	-	-	-
	46.63	-	58.83	100	100	100	-	-	-
shingle oak	538,802	-	220,535	93,420	-	-	224,848	-	-
	51.02	-	58.17	100	-	-	100	-	-

(Table 30 continued on next page)

(Table 30 continued)

Species	Diameter class	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
chinkapin oak	6,137,448	-	865,113	1,223,228	1,824,896	1,047,128	232,510	577,258	367,315
	18.06	-	30.54	31.31	30.26	40.85	100	70.65	100
pin oak	2,870,209	-	235,902	309,515	638,753	390,046	290,698	-	1,005,294
	39.86	-	57.77	57.68	60.45	70.85	100	-	71.37
chestnut oak	178,906,817	-	14,175,092	22,783,899	32,032,520	33,645,831	33,534,072	23,777,454	18,957,951
	4.56	-	8.64	7.84	7.52	8.4	8.76	11.91	15.38
northern red oak	76,493,589	-	3,566,471	4,801,000	9,853,366	10,871,997	10,785,927	11,978,355	24,636,473
	6.81	-	18.31	16.25	13.42	14.27	15.79	17.1	14.07
post oak	1,646,070	-	249,075	534,351	389,606	181,694	-	291,345	-
	36.04	-	61.57	52.18	76.5	100	-	100	-
black oak	146,494,204	-	3,456,324	8,771,116	13,835,887	20,252,816	24,160,878	24,410,213	51,606,969
	5.35	-	15.21	11.79	11.97	10.09	10.96	12.07	10.01
black locust	1,342,599	-	400,947	311,367	141,706	191,399	-	297,180	-
	39.93	-	46.22	57.8	100	100	-	100	-
sassafras	9,666,686	-	3,500,056	1,715,518	2,623,483	416,816	753,198	268,755	388,860
	18.96	-	17.07	31.11	29.59	70.71	73.8	100	100
American basswood	4,969,995	-	664,789	503,112	1,134,035	720,744	579,180	-	1,368,136
	24.08	-	35.48	50.3	46.9	57.78	70.72	-	58
American elm	2,462,704	-	933,430	613,853	294,566	144,560	476,295	-	-
	22.6	-	28.26	41.01	71.13	100	70.74	-	-
slippery elm	3,090,527	-	472,602	808,607	403,205	333,267	-	266,942	805,904
	26.42	-	38.3	35.46	57.83	70.77	-	100	70.73

**Table 31. — Net volume of sawtimber trees (International 1/4 inch rule), in board feet, on forest land by species group and diameter class, Indiana State Forests 2008 - 2012**

Estimate: Volume of sawtimber on forestland(bdft - FIA)

Sampling Error percent: Volume of sawtimber on forestland(bdft - FIA)

Species group	Diameter class	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
All	1,378,946,740	12,973,621	132,876,929	167,276,116	196,271,668	214,237,073	196,558,897	171,780,378	286,972,059
	1.47	9.56	2.66	2.83	3.02	3.35	3.93	4.71	4.65
Loblolly and shortleaf pine	5,530,375	912,904	843,436	492,462	1,308,280	497,678	355,848	408,646	711,121
	29.22	38.11	38.82	59.07	43.19	100	100	100	100
Other yellow pines	40,475,534	5,365,158	8,529,832	10,294,988	7,315,253	4,467,378	3,043,485	395,020	1,064,420
	9.58	13.57	13.43	13.8	17.38	26.28	31.58	100	70.72
Eastern white and red pine	56,461,911	4,385,708	6,951,089	8,181,305	7,969,723	10,056,936	11,506,538	4,116,873	3,293,740
	11.53	17.25	14.92	15.51	19.62	18.25	20.22	39.78	41.37
Jack pine	439,182	231,266	207,916	-	-	-	-	-	-
	100	100	100	-	-	-	-	-	-
Cypress	104,251	-	-	104,251	-	-	-	-	-
	100	-	-	100	-	-	-	-	-
Other eastern softwoods	6,785,340	2,078,585	2,225,438	1,301,004	702,710	293,611	183,992	-	-
	17.56	20.33	24.46	25.65	47.11	71.17	100	-	-
Select white oaks	228,175,589	-	14,320,768	21,538,858	31,542,446	40,049,009	36,653,094	36,294,698	47,776,715
	3.83	-	7.98	7.78	7.48	7.43	8.41	9.3	9.84
Select red oaks	76,493,589	-	3,566,471	4,801,000	9,853,366	10,871,997	10,785,927	11,978,355	24,636,473
	6.81	-	18.31	16.25	13.42	14.27	15.79	17.1	14.07
Other white oaks	180,552,888	-	14,424,166	23,318,250	32,422,125	33,827,525	33,534,072	24,068,799	18,957,951
	4.53	-	8.55	7.75	7.48	8.37	8.76	11.83	15.38
Other red oaks	161,711,543	-	4,931,562	10,605,607	15,857,623	23,776,373	25,742,290	26,039,015	54,759,073
	5.09	-	12.66	10.68	11.16	9.54	10.67	11.65	9.77
Hickory	93,744,241	-	13,757,582	17,529,859	19,526,811	19,621,801	8,617,961	9,042,126	5,648,102
	5.36	-	8.21	8.8	9.95	11.11	19.28	20.35	28.94
Hard maple	83,509,893	-	18,484,745	17,549,170	16,183,848	12,201,967	10,148,722	5,853,589	3,087,852
	5.41	-	7.01	9.31	10.58	14.19	16.88	26.47	41.9
Soft maple	42,571,471	-	7,861,559	7,350,168	7,703,764	5,950,390	2,842,477	3,658,683	7,204,430
	8.74	-	10.28	13.08	14.57	20	30.15	30.12	26.69
Beech	45,334,770	-	4,605,477	3,961,177	4,397,621	4,115,941	7,307,962	8,007,128	12,939,463
	9.46	-	14.22	17.44	20.45	24.77	21.54	23.07	20.36

(Table 31 continued) IXIIF 季ixif、

(Table 31 continued)

Species group	Diameter class	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0 +
Sweetgum	6,773,518	-	1,431,247	1,755,794	1,610,166	979,564	242,796	278,776	475,175
	20.58	-	26.38	26.55	33.59	53.46	100	100	100
Tupelo and blackgum	6,562,524	-	1,331,234	1,553,860	1,847,293	1,166,933	-	300,564	362,640
	17.62	-	22.49	26.76	30.23	40.85	-	100	100
Ash	34,953,793	-	3,935,806	4,594,332	5,779,829	6,023,420	4,078,135	3,371,595	7,170,676
	9.63	-	14.71	17.18	17.16	20.27	25.84	31.65	26.2
Cottonwood and aspen	18,024,976	-	1,609,906	1,889,028	2,857,282	2,487,494	3,085,026	2,159,701	3,936,539
	17.83	-	22.43	27.86	28.21	32.89	36.89	41.03	46.47
Basswood	4,969,995	-	664,789	503,112	1,134,035	720,744	579,180	-	1,368,136
	24.08	-	35.48	50.3	46.9	57.78	70.72	-	58
Yellow-poplar	218,056,478	-	12,654,898	18,079,230	19,119,168	27,446,148	30,016,452	30,697,753	80,042,829
	5.81	-	10.16	9.69	11.33	11.49	12.04	14.08	11
Black walnut	13,128,467	-	2,070,600	3,004,947	1,471,708	2,741,515	676,640	1,194,201	1,968,857
	13.47	-	19.74	18.58	31.72	25.71	57.89	50.04	44.99
Other eastern soft hardwoods	52,085,308	-	7,717,046	8,377,577	7,389,962	6,749,250	6,665,930	3,617,677	11,567,868
	9.51	-	10.8	13.14	16.41	18.15	23.02	32.49	26.19
Other eastern hard hardwoods	2,501,104	-	751,363	490,137	278,655	191,399	492,370	297,180	-
	34.27	-	35.14	44.91	70.72	100	100	100	-



**Table 32. — Net volume of sawtimber trees (International 1/4 inch rule), in board feet, on forest land by tree grade and cull proportion, Indiana State Forests 2008 - 2012**

Estimate: Volume of sawtimber on forestland(bdft - FIA)

**Sampling Error percent: Volume of sawtimber on forestland(bdft - FIA)**

Tree grade	Cull proportion	0 - 10%	11- 20%	21 - 30%	31 - 40%
All	1,378,946,740	1,363,388,505	10,582,251	2,155,330	2,820,655
	1.47	1.48	18.45	49.42	38.36
Tree grade 1	324,011,569	322,784,151	814,538	412,879	-
	3.75	3.76	61.55	100	-
Tree grade 2	319,874,497	319,269,324	605,173	-	-
	3.2	3.2	58.15	-	-
Tree grade 3	415,514,891	413,378,945	1,916,660	219,286	-
	2.49	2.5	38.5	100	-
4: Gradeable log but does not meet grade 3 standards	282,690,658	279,802,709	1,523,286	-	1,364,662
	3.5	3.53	40.35	-	53.55
5: Graded but does not contain gradeable log in the butt 16' log	36,855,126	28,153,375	5,722,593	1,523,165	1,455,992
	10.67	12.03	27.46	62.84	54.82